

Voice syncretism

Nicklas N. Bahrt

Research on Comparative Grammar



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Preface

This book is a revised version of my doctoral dissertation which I defended at the University of Helsinki in November 2020. While all chapters have undergone some changes, the most notable differences between this book and the original doctoral dissertation can be seen in the introduction (Chapter 1), in the descriptions of previous research on voice syncretism (§3.1.3 and §3.1.4), and in the discussions of voice syncretism and its distribution (Chapter 6). The introductory chapter has been entirely rewritten to provide a more comprehensive introduction to the study of voice syncretism, and now also introduces an important distinction between minimal and maximal syncretism not maintained in the dissertation. This distinction is intended to make the discussion of voice syncretism, its previous research and its distribution more transparent. Furthermore, most tables and figures have been reworked – and some have been merged – to provide a better reading experience. Finally, several typographical errors have been corrected, accidentally omitted sources have been duly added to the list of references, and disarranged data in Appendices B and C have been fixed.

I am particularly thankful to the chief editor, Martin Haspelmath, for giving me the opportunity to publish this revised version of my doctoral dissertation at Language Science Press and for his insightful comments that helped enhance my manuscript in numerous ways. I am also grateful to several proofreaders and three anonymous reviewers who took their time to carefully read my manuscript and provide valuable suggestions on how it could be further improved.

Helsinki, July 9th 2021

N. N. Bahrt

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Abbreviations

Glossing

This book follows the Leipzig Glossing Rules and employs its standard abbreviations.¹ Other abbreviations employed in this book but not defined by the Leipzig Glossing Rules are listed below.

| | | | |
|-------|---------------|--------|---------------|
| ADE | Adessive | INV | Inverse |
| ANIM | Animate | LINK | Linker |
| ANTC | Anticausative | MED | Medial |
| ANTP | Antipassive | MID | Middle |
| AOR | Aorist | MIN | Minimal |
| AUG | Augmented | MIR | Mirative |
| ASP | Aspect | MOD | Modal |
| ASSOC | Associative | NAME | Personal name |
| CMPV | Completive | NLOCUT | Non-locutor |
| CTR | Contrastive | NSIT | New situation |
| CONJ | Conjunctive | OPT | Optative |
| CONN | Connector | PART | Partitive |
| CONT | Continuative | PRED | Predicate |
| DIM | Diminutive | PROP | Propriative |
| DISC | Discursive | QUOT | Quotative |
| EP | Epenthetic | REAL | Realis |
| EVID | Evidential | RDPL | Reduplication |
| FIN | Finite | RESTR | Restrictor |
| FRUST | Frustrative | SUBORD | Subordinate |
| INCH | Inchoative | TH | Thematic |
| INT | Intentional | UND | Undergoer |

¹<https://www.eva.mpg.de/lingua/resources/glossing-rules.php> (Accessed in April 2021)

Macroareas

| | | | | | |
|----|---------|----|-----------|----|---------------|
| AF | Africa | PN | Papunesia | NA | North America |
| EA | Eurasia | AU | Australia | SA | South America |

Symbols

- ~ Indicates reduplication.
- † Indicates a marginally productive voice.
- * Indicates an ungrammatical *or* reconstructed form.
- ? Indicates an uncertain form, meaning *or* diachronic development.
- ↔ Indicates a comparison between two diatheses (see §2.2.1).
- Indicates a diachronic development (see Chapter 7).
- ← Same as above.

Shorthands

- sb. somebody
- sth. something
- e.o. each other
- self oneself

1 Introduction

This book is a typological study of resemblance in formal verbal marking between two or more of the following seven clausal constructions: passives, antipassives, reflexives, reciprocals, anticausatives, causatives, and applicatives. Following Malchukov (2015; 2016; 2017), Creissels (2016), and Zúñiga & Kittilä (2019), these constructions are called VOICES. In turn, their formal marking is called VOICE MARKING, and any resemblance in voice marking is called VOICE SYNCRETISM. The latter term here denotes resemblance in formal marking regardless of whether the marking in two or more voices is related semantically and/or diachronically (Zúñiga & Kittilä 2019: 233f.). Thus, the term refers strictly to the polyfunctionality or coexpression of voice marking (Haspelmath 2019: 21). As discussed in Chapter 2, voice itself has been a topic of much debate and innumerable definitions of the seven voices mentioned above have been proposed in the literature. Many definitions rely on notions like an argument-adjunct distinction, transitivity, grammatical roles and/or an active voice that are intuitively clear yet difficult to apply to different languages in a uniform manner. The sheer amount of literature dedicated to capturing the essence of the individual notions testifies to their elusive nature, and there does not seem to be any consensus as to how they are best defined for use in cross-linguistic investigations (§2.1). Rather than attempting to (re)define the notions once again, this book employs alternative voice definitions that avoid the notions altogether. The definitions instead rely solely on i) a comparison of two clausal constructions, ii) the number of semantic participants in the constructions, iii) the semantic roles of certain semantic participants in the constructions, and iv) the formal verbal marking of the constructions (§2.2). Observe that this book covers only voices that are formally marked on the verb, while periphrastic constructions of various kinds are largely excluded from the discussion.

It is well-known that two or more of the seven voices of focus in this book share the same voice marking in some languages. For instance, languages in which the reflexive and reciprocal voices share the same marking can be found throughout the world. This PATTERN of voice syncretism (i.e. reflexive-reciprocal syncretism) is illustrated in Table 1.1 by examples from the Bantu language Namib-

1 Introduction

ian Fwe of Africa (Gunnink 2018: 269f.), the South-Central Dravidian language Telugu of Eurasia (Subbarao & Murthy 1999: 226, 233), the Mangrida language Nakkara of Australia (Eather 2011: 251), the West Bougainville language Rotokas of Papunesia (Robinson 2011b: 101, 222), the Mixe-Zoque language Ayutla Mixe of North America (Romero-Méndez 2008: 371f.), and the language isolate Kamsá of South America (O’Brien 2018: 129). While some patterns of voice syncretism have been the focus of much scrutiny (like reflexive-reciprocal syncretism), discussions of most patterns of voice syncretism are generally sporadic and implicit in the literature, and a comprehensive typological survey of the phenomenon has hitherto not been undertaken (Malchukov 2017: 3f.). This book strives to fill this gap with a systematic investigation of voice syncretism from both synchronic and diachronic perspectives through a survey of a language sample encompassing 222 languages (§1.1).

Table 1.1: Reflexive-reciprocal syncretism across the world

| | REFL | | RECP | |
|-------------|-----------------------|-------------------|-------------------------|-----------------|
| Namib. Fwe | <i>-rì-kùnkùmún-</i> | ‘to brush self’ | <i>-rì-shák-</i> | ‘to love e.o.’ |
| Telugu | <i>gillu-konn-</i> | ‘to pinch self’ | <i>tittu-konn-</i> | ‘to scold e.o.’ |
| Nakkara | <i>bburda-ndjiya-</i> | ‘to hit self’ | <i>kkulakki-ndjiya-</i> | ‘to wake e.o.’ |
| Rotokas | <i>ora-karekare-</i> | ‘to scratch self’ | <i>ora-uugaa-</i> | ‘to kiss e.o.’ |
| Ayutla Mixe | <i>nay-tsuk-</i> | ‘to cut self’ | <i>nay-akook-</i> | ‘to kill e.o.’ |
| Kamsá | <i>en-onj̃-</i> | ‘to see self’ | <i>en-chwaye-</i> | ‘to greet e.o.’ |

The reflexive-reciprocal syncretism illustrated in Table 1.1 represents one of 21 logically possible patterns of voice syncretism when one considers two of the seven voices sharing the same voice marking. As discussed in Chapter 3, previous research on voice syncretism has often focused on a subset of these patterns (notably patterns involving the reflexive, reciprocal, anticausative and/or passive voices) and on full resemblance in voice marking between voices (§3.1). However, only one of the 21 patterns actually remains unattested in the language sample and voice syncretism therefore seems to deserve more attention than it has received in the literature so far. For instance, growing evidence shows that syncretism involving the antipassive voice is genealogically and geographically widespread (see, e.g., Janic 2010) and the same is true for causative-applicative syncretism (see, e.g., Malchukov 2017). In terms of marking, it is worth observing that in some languages the voice marking in one voice does not necessarily bear full resemblance to the voice marking in another voice under all conditions, only

under certain conditions – or the resemblance might be only partial in the first place (§3.2). Such variation in voice marking has received little attention with the notable exception of Nedjalkov (2007d: 243f.) who distinguishes between “combined markers” and “complex morphological markers” in his investigation of reciprocal syncretism. According to Nedjalkov, the former kind of markers indicate that “both meanings are expressed by the same marker”. In turn, the latter kind of markers “share a common component”, as illustrated in Table 1.2 by examples from the North Halmaheran language Tidore (PN), the Northern Pama-Nyungan language Uradhi (AU), Bolivian Quechua (SA), and the Algic language Yurok (NA). The main focus of this book is full resemblance in voice marking (like in Table 1.1) but partial resemblance (like in Table 1.2) is covered as well for the sake of linguistic diversity.

Table 1.2: Partial resemblance in voice marking (Nedjalkov 2007d: 244)

| | REFL | RECP |
|---------|-------------|--|
| Tidore | <i>ma-</i> | <i>ma-ku-</i> |
| Yurok | <i>-ep</i> | <i>-ep-ew</i> |
| Uradhi | <i>-:ni</i> | <i>-:ni-βa</i> (e.g. <i>uta-ni</i> ‘to cut self’, <i>uta-ni-βa</i> ‘to cut e.o.’) |
| Quechua | <i>-ku</i> | <i>-na-ku</i> (e.g. <i>riku-ku</i> ‘to look at self’, <i>riku-na-ku</i> ‘to look at e.o.’) |

For the sake of convenience, in this book the term **SIMPLEX VOICE SYNCRETISM** serves as a shorthand for the 21 patterns of voice syncretism that are logically possible when one considers *two* of the seven voices sharing the same voice marking. These 21 patterns of simplex voice syncretism are discussed in Chapter 4 which provides a general overview of voice syncretism and offers easy access to examples and information about each pattern. In the chapter the 21 patterns are divided into four groupings: middle syncretism (§4.1), antipassive syncretism (§4.2), causative syncretism (§4.3), and applicative syncretism (§4.4). While these groupings are essentially arbitrary and primarily serve to facilitate the discussion of the many patterns of voice syncretism in a clear and structured manner, the groupings do reflect the frequencies of the various patterns to some extent. For instance, middle syncretism (involving the reflexive, reciprocal, anticausative and/or passive voice) is considerably more common than applicative syncretism. Furthermore, in some languages one or more of the 21 patterns of simplex voice syncretism can form part of extended voice syncretism, in which more than two voices share the same voice marking (e.g. reflexive-reciprocal-anticausative syncretism). The term **COMPLEX VOICE SYNCRETISM** serves as a shorthand for the 99

patterns of voice syncretism that are logically possible when one considers *more than two* voices sharing the same marking. However, only seventeen of the 99 patterns have actually been attested in the language sample and these patterns are discussed groupwise in Chapter 5 in terms of middle syncretism (§5.1), antipassive syncretism (§5.2) and causative syncretism (§5.3). Each of these groupings covers voice marking shared by three or four voices. In turn, a fourth grouping is reserved for voice marking exceptionally shared by five voices. While several patterns of voice syncretism involving three or four voices have been attested cross-linguistically, syncretism involving five voices has so far only been found in Permic languages and in the Slavic language Russian (§5.4).

This book maintains an important distinction between MAXIMAL SYNCRETISM and MINIMAL SYNCRETISM which essentially represent two different manners of approaching syncretism. The former term refers to syncretic marking and its maximal scope – or full range – of functions, whereas the latter term refers minimally to precisely two functions of syncretic marking, even if the marking in question also has additional functions. For the sake of illustration, consider the reflexive-reciprocal syncretism of the languages Telugu and Rotokas shown in Table 1.1 on page 2. In Telugu the suffix *-kon(n)* not only has a reflexive and a reciprocal function but also an anticausative function. Thus, the maximal functional scope of the suffix *-kon(n)* is complex reflexive-reciprocal-anticausative syncretism, but if the syncretism is viewed minimally in terms of pairwise patterns, it entails reflexive-reciprocal, reflexive-anticausative, and reciprocal-anticausative simplex syncretism. By contrast, in Rotokas the prefix *ora-* has only a reflexive and a reciprocal function, and the maximal syncretism of the prefix therefore equals its minimal syncretism. These two cases are summarised in Table 1.3. Evidently, both Rotokas and Telugu clearly feature voice marking shared by both the reflexive and reciprocal voices (minimal syncretism). Nevertheless, it is important to keep in mind that the voice marking in Telugu also has an anticausative function (full syncretism), for which reason the suffix *-kon(n)* in this language does not fully correspond to the prefix *ora-* in Rotokas despite the shared reflexive-reciprocal syncretism. This distinction is generally not maintained in the literature in which affixes like Telugu *-kon(n)* and Rotokas prefix *ora-* tend to be treated on par with each other despite their apparent functional differences. To account for such differences, the distinction is maintained throughout this book, although it is only explicitly mentioned when relevant. Chapter 4 treats simplex voice syncretism primarily in terms of minimal syncretism, whereas Chapter 5 on complex voice syncretism focuses exclusively on maximal syncretism.

Table 1.3: Maximal and minimal voice syncretism compared

| Focus: Maximal voice syncretism | | |
|---------------------------------|----------------|---------------------------------|
| Rotokas | <i>ora-</i> | REFL-RECP |
| Telugu | <i>-kon(n)</i> | REFL-RECP-ANTC |
| Focus: Minimal voice syncretism | | |
| Rotokas | <i>ora-</i> | REFL-RECP |
| Telugu | <i>-kon(n)</i> | REFL-RECP, REFL-ANTC, RECP-ANTC |

The cross-linguistic distribution of voice syncretism is explored in Chapter 6. As the presence of two or more voices in a language are a natural prerequisite for voice syncretism to be attested, the chapter in question also covers the distribution of voices more generally (§6.1). The chapter even provides a brief treatment of dedicated voice marking, in other words voice marking restricted to a single voice in a language (§6.2). For the sake of transparency, the distribution of voice syncretism itself is discussed first in terms of minimal simplex syncretism (§6.3.1) and then in terms of maximal simplex and complex syncretism (§6.3.2). As demonstrated in the discussion of minimal simplex voice syncretism, patterns of middle syncretism (involving the reflexive, reciprocal, anticausative and/or passive voices) are among the most common patterns of voice syncretism attested in the language sample. However, causative-applicative and causative-passive syncretism are also rather frequent cross-linguistically, and the same is true for patterns of antipassive syncretism. By contrast, most other patterns are only marginally attested in the language sample. For example, eight patterns are attested in less than five languages each. When it comes to maximal complex voice syncretism, only one pattern – reflexive-reciprocal-anticausative syncretism – is attested in more than five languages, one of which is Telugu already discussed above. Chapter 6 also deals with the geographic distribution of voice syncretism and resemblance in voice marking.

The diachrony of certain patterns of voice syncretism has received considerable attention in the literature, most notably patterns of middle syncretism, particularly in relation to Indo-European languages. It is, for instance, well-known that the Proto-Indo-European reflexive pronoun **s(u)e* has grammaticalised and developed reciprocal, anticausative, passive and/or antipassive uses in several descendant languages (§7.1). Likewise, it has been known for more than one and a half century that causative marking in some languages has developed a passive

function (§7.5.2). By contrast, the diachrony of most other patterns of voice syncretism has only received sporadic and often scarce treatment in the literature, or been ignored altogether. Prior research on the diachrony of voice syncretism is reviewed in Chapter 7 which also presents new evidence for a variety of diachronic voice developments. Assuming that each of the seven voices of focus in this book can theoretically be the origin for each of the other voices, there are logically 42 potential paths of development. However, it has only been possible to find plausible evidence for twenty of these paths, and those twenty paths constitute the main focus of the discussion on the diachrony of voice syncretism. The paths are discussed according to origin: reflexive origin (§7.1), reciprocal origin (§7.2), anticausative origin (§7.3), passive origin (§7.4), causative origin (§7.5), and applicative origin (§7.6). Antipassive voice marking has so far not been observed to have developed any of the other six voice functions in any language. The chapter demonstrates that several voice developments can potentially be bidirectional, including ones that have traditionally been considered unidirectional. For instance, it has often been stated that reflexive voice marking might develop a reciprocal function but not vice versa (e.g. Heine 2000; Heine & Miyashita 2008), yet it appears that reciprocal voice marking actually has developed a reflexive function in several languages across the world (§7.2.1). The findings thus suggest that the diachrony of voice syncretism is less predictable and more diverse than generally assumed.

Finally, Chapter 8 concludes the book with a summary of the main findings presented in previous chapters (§8.1) in addition to a look at prospects for further research (§8.2).

1.1 Language sample

As mentioned in the introduction, this book provides a typological survey of voice syncretism in 222 languages. These languages represent a variety sample which has been designed according to the Genus-Macroarea sampling method conceived by Miestamo (2003; 2005) and further elaborated by Miestamo et al. (2016: 247ff.). In the spirit of Bell (1978) and Dryer (1989; 1992; 2000), this method incorporates stratification for genealogical and geographical affiliation, and thereby ensures a high degree of interlingual independence which, in turn, promotes linguistic diversity. Miestamo et al. (2016: 238ff.) define a GENUS as “a level of genealogical classification intended to be comparable across the world in terms of time depth” which “is not more than approximately 3,500 to 4,000 years”, and MACROAREAS as “continent-size linguistic areas which are independent of each

other, but within which languages are to some extent typologically similar due to either (ancient) contact or (very deep) genealogical affinity” (see also [Dryer 1992: 84](#)). The number of genera in the world has variously been estimated to be 478 ([Bell 1978](#)), 322 ([Dryer 1989](#)), 458 ([Dryer 2005](#)), 413 ([Miestamo 2005](#)) and 521 ([Dryer 2013](#); [Miestamo et al. 2016](#)). In this book 542 genera are acknowledged in accordance with the World Atlas of Language Structures (WALS) as of August 2019. Likewise, following WALS, six macroareas are recognised: Africa, Eurasia, Papunesia, Australia, North America, and South America (for a more detailed discussion of these macroareas, see [Hammarström & Donohue 2014](#)). Table 1.4 provides an overview of these genera and macroareas.

Table 1.4: Genera and macroareas according to WALS

| | # | % |
|---------------|-----|------|
| Africa | 77 | 14.2 |
| Eurasia | 82 | 15.1 |
| Australia | 42 | 7.8 |
| Papunesia | 136 | 25.1 |
| North America | 101 | 18.6 |
| South America | 104 | 19.2 |

The variety sample employed in this book represents a so-called core sample in which all languages belong to different genera ([Miestamo et al. 2016: 250ff.](#)). The 222 languages of the sample have been chosen one by one from different macroareas in alternating turns. The genera have been chosen largely on a random basis, yet availability of data has naturally had an effect on the choice of genera as well. For instance, genera encompassing languages for which little data are currently available have been ignored, and recent comprehensive descriptive grammars have generally been preferred over older less detailed grammatical descriptions. Furthermore, an attempt has been made to include genera from as many distinct language families as possible. However, as noted by [nless](#) the size of the sample is very small, the number of distinct language families is soon exhausted for some macroareas”, in which case genera from the same language families must be chosen. Thus, certain language families are represented by more than one genus in the language sample. Table 1.5 shows the geographical distribution of the genera represented in the sample.

Table 1.5: Language sample according to genera and macroareas

| | # | % |
|---------------|----|------|
| Africa | 39 | 50.7 |
| Eurasia | 41 | 50.0 |
| Australia | 21 | 50.0 |
| Papunesia | 48 | 35.3 |
| North America | 36 | 35.6 |
| South America | 37 | 35.6 |

The percentages in Table 1.5 are based on the total numbers of genera in the individual macroareas and not on the total number of genera in the world. Collectively, the 222 genera shown in the table represent roughly 41 percent of the world's 542 genera. There are currently considerably more satisfactory data readily available for genera of the African, Eurasian, and Australian macroareas than for genera of the Papuan, North American, and South American macroareas, and this bibliographical bias (Bakker 2010: 106f.) explains the percentual differences in coverages of the six macroareas in Table 1.5. The language sample is evidently proportionally biased slightly towards the Old World and Australia, though it is worth observing that the New World and Papunesia are better represented in absolute numbers. A restricted sample (Miestamo et al. 2016: 250f.) could alternatively be extracted from the core sample by lowering the percentages of the African, Eurasian, and Australian macroareas from 50 to 35 percent, but this would inevitably lead to loss of diversity and has therefore not been done here. In any case, a chi-squared goodness-of-fit test of the sample in Table 1.5 based on the expected proportions for each macroarea listed in Table 1.4 shows that the differences in the distribution of genera across the macroareas are not statistically significant (p -value = 0.241). Thus, the geographical distribution of genera in the sample is considered reasonably balanced.

The 222 languages in the sample representing 222 genera are plotted onto the map in Figure 1.1 to give an idea of their geographic distribution. The individual languages are all listed in Appendix A alongside information about macroarea and genus.

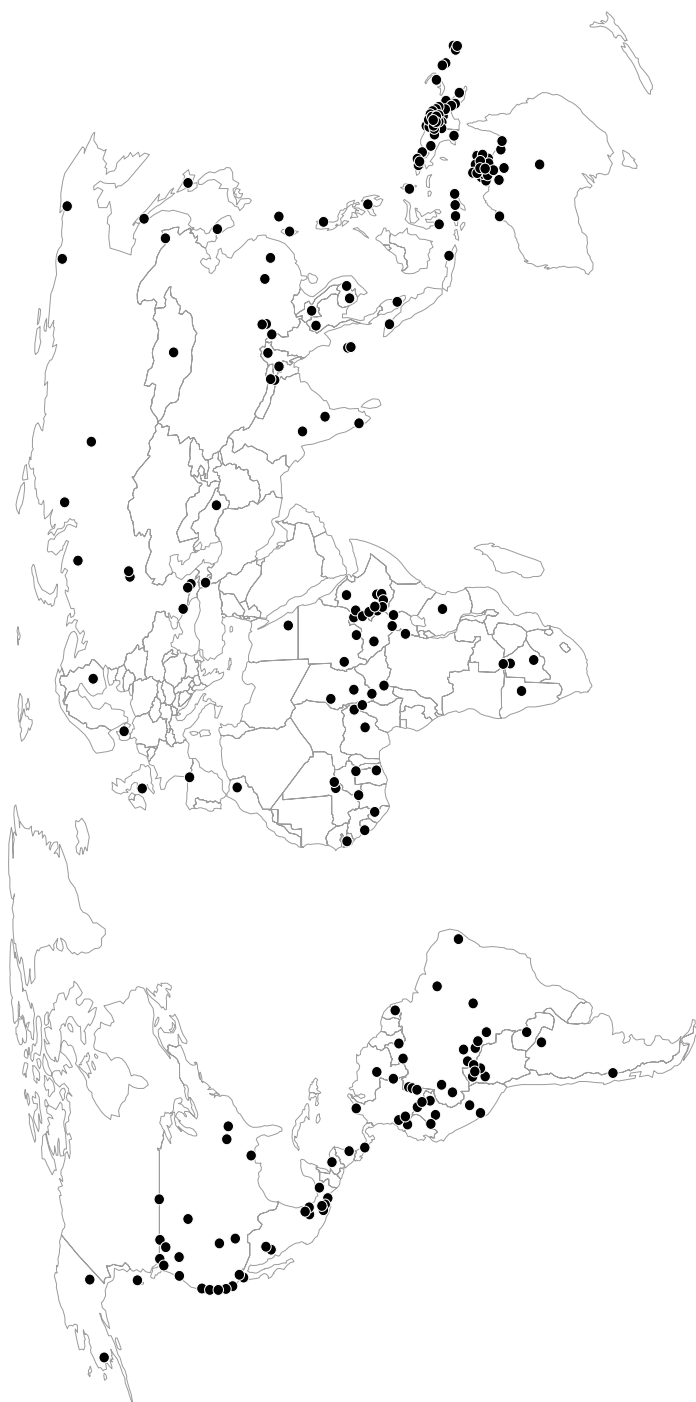


Figure 1.1: Map of languages in language sample

1.2 Sources and data

Descriptive grammars have served as the primary data sources for the typological survey of this book. The data for most of the 222 languages discussed in the previous section come from a single source each, but for a few languages data have been obtained from multiple sources, including articles and dictionaries. In cases where more than one source has been consulted for the same language, care has been taken to ensure that all sources represent the same variety or dialect. Additionally, some data for some languages have been obtained through fieldwork as well as personal correspondence, and some data are based on personal knowledge. Data of these kinds are duly noted in the book where relevant, while all primary sources are listed in Appendix A. The actual data are given in Appendices B and C which cover voice attestations and syncretic voice marking, respectively. More details about the data are provided in the respective appendices.

2 Defining voices

Passives, antipassives, reflexives, reciprocals, anticausatives, causatives, and applicatives have been the topic of much debate in the literature and much effort has been put into identifying and pinpointing their properties and features. As a result, definitions of the individual voices differ to varying degrees in the literature, yet many definitions are rather similar with regard to the manner in which they are defined. More specifically, voice definitions commonly rely on notions like an argument-adjunct distinction, transitivity, grammatical roles, and/or an active voice. However, although these notions are intuitively clear, there does not seem to be any consensus as to how they are best defined and they have consequently been endlessly debated for decades (§2.1). Rather than attempting to (re)define the various notions, they are avoided altogether in this book. Instead, the book employs alternative voice definitions that have been designed specifically for the investigation of voice syncretism, based on i) a comparison of two clausal constructions, ii) the number of semantic participants in the constructions, iii) the semantic roles of certain semantic participants in the constructions, and iv) the formal verbal marking of the constructions (§2.2). It is worth reiterating here that this book focuses exclusively on syncretism of formal voice marking found on verbs for which reason “uncoded alternations” of various sorts (Zúñiga & Kittilä 2019: 178ff.) are excluded from the discussion.

2.1 Voices revisited

The use of an argument-adjunct distinction, transitivity, grammatical roles, and an active voice in voice definitions is here illustrated by an oft-cited causative definition formulated by Dixon & Aikhenvald (2000). It is evident from the wider context in which the definition is found that Dixon & Aikhenvald consider the grammatical roles s, A, and o arguments (“core arguments”) in contrast to adjuncts (“peripheral arguments”). Furthermore, Dixon & Aikhenvald argue that a prototypical causative derives a transitive clause from an intransitive clause, and the adjective “underlying” refers to a certain type of voice believed to be more basic than others – in other words what is traditionally called an active voice.

2 Defining voices

For similar formulations and definitions, see for example Peterson (2007: 1f.) on applicatives, Siewierska & Bakker (2012: 151f.) on passives, and Heaton (2017: 63f. 2020: 132ff.) on antipassives.

The characteristics of a prototypical causative are:

- (a) Causative applies to an underlying intransitive clause and forms a derived transitive.
- (b) The argument in underlying s function (the causee) goes into o function in the causative.
- (c) A new argument (the causer) is introduced, in A function.
- (d) There is some explicit formal marking of the causative construction.

(Dixon & Aikhenvald 2000: 13)

The various notions mentioned here are intuitively clear and therefore widely presupposed and employed ad libitum in the literature on voice without explicit definitions. Nevertheless, the notions have been the topic of ongoing debate for decades, and there does not seem to be any agreement as to how they can best be defined. Furthermore, definitions of the notions tend to rely on language-specific criteria which impede their use in cross-linguistic typological research. These issues are discussed in more detail in the following sections.

2.1.1 Arguments and adjuncts

The argument-adjunct distinction refers to a dichotomy first formulated by Tesnière (1959: 102) who in clauses distinguished “actants” (i.e. *les êtres ou les choses* “the beings or things”) from “circumstances” (*circonstances*, i.e. the time, place, manner, etc., according to which a process unravels). The terminology of this dichotomy varies considerably in the literature, and so do definitions thereof. The term “argument” is favoured over “actant” in more recent publications (e.g. Comrie 1993; Kazenin 1994; Dik 1997; Croft 2001; 2012; Haspelmath & Müller-Bardey 2004; Kulikov 2010; Wichmann 2014; Haspelmath & Hartmann 2015) and also often appears in the compound “core argument” (e.g. Dixon 2000; Dixon & Aikhenvald 2000; Kazenin 2001a; Van Valin 2001; 2005; Peterson 2007; Malchukov 2015; 2016) to distinguish it from a “peripheral argument”, another term for “circumstance” (e.g. Dixon 2000; Dixon & Aikhenvald 2000; Peterson 2007; Malchukov 2016). The term “adjunct” is frequently employed in both older and more recent publications alongside or instead of “peripheral argument” and “circumstance”

(e.g. Vater 1978; Comrie 1993; Croft 2001; 2012; Van Valin 2001; 2005; Peterson 2007; Wichmann 2014; Haspelmath & Hartmann 2015; Malchukov 2015), and so is the term “oblique” (e.g. Cooreman 1994; Kazenin 1994; 2001a; Haspelmath & Müller-Bardey 2004; Peterson 2007; Kulikov 2010; Malchukov 2015). For an overview of obsolete terminology, see Somers (1984: 508).

Tesnière (1959) provides a few criteria for distinguishing arguments from adjuncts. For instance, Tesnière (1959: 128) states that arguments are indispensable for completing the semantics of a verb while adjuncts are not; and adjuncts tend to need additional prepositional marking while arguments do not – unless a preposition is closely associated with the verb. While the distinction itself has been highly influential, subsequent research has repeatedly shown that Tesnière’s criteria cannot be applied to all languages. In fact, it has proven remarkably difficult to find any adequate criteria for distinguishing arguments from adjuncts and vice versa cross-linguistically. Almost two decades after Tesnière’s formulation of the dichotomy, Vater (1978: 21) notes that “the problem of how to differentiate between [arguments] and adjuncts has not yet been solved satisfactorily”, and similar comments are provided by Somers (1984) in a paper “[o]n the validity of the [argument]-adjunct distinction in valency grammar”. A decade later Comrie (1993: 906) remarks that “[t]he basic intuition behind this distinction is relatively clear, though difficulties arise as soon as one tries to make it more explicit, and there is as yet no generally accepted solution to these difficulties”. Similar thoughts have been reiterated in the new millennium. Farrell (2005: 30) states that “[a]lthough the conceptual distinction between argument and adjunct is relatively clear, the empirical basis for it is problematic”, and Rickheit & Sichelschmidt (2007: 165) observe that “[t]he problem with the dichotomy is that the criteria for classifying an [argument or adjunct] are anything but clear”. As discussed by Haspelmath & Hartmann (2015: 46ff.), many approaches to the differentiation of arguments and adjuncts are based on criteria pertaining to semantic entailment or verb-specificity of various kinds which are notoriously problematic in a cross-linguistic context.

The difficulties in distinguishing arguments from adjuncts cross-linguistically have prompted Haspelmath (2014: 4) to speculate that “it may be that no good cross-linguistic definition of arguments and adjuncts as syntactic elements that largely coincides with our intuitions will be possible”. Faced with this problem, it has been suggested sporadically in the literature that the distinction between different clausal elements is not necessarily binary. For instance, Wichmann (2014: 1) argues that “instead of requiring a sharp distinction we may satisfy ourselves with a gradient one”. An early advocate of a non-binary approach is

Matthews (1981: 140f.) who proposes a trichotomy distinguishing so-called “non-peripheral complements”, “non-complements”, and “peripherals”. Somers (1984: 524) extends this trichotomy to a hexachotomy encompassing “integral complements”, “obligatory complements”, “optional complements”, “middles”, “adjuncts”, and “extraperipherals”. More recently, Forker (2014) has proposed “a canonical approach to the argument/adjunct distinction” (in the spirit of Corbett 2005; 2007; 2013; Brown et al. 2013) in which canonical arguments and canonical adjuncts represent opposite poles on a continuum. Canonicity in this approach is determined according to five criteria (Forker 2014: 28ff.) and if it is assumed that each criterion can be either argument-like or adjunct-like, Forker’s polychotomy has 32 distinctions. Nevertheless, although such polychotomous distinctions are undoubtedly more complex than a binary argument-adjunct distinction, both kinds of distinctions are subject to the same problems. For instance, Forker’s five criteria are either based on the problematic concept of verb-specificity mentioned above (Haspelmath & Hartmann 2015: 46ff.) or language-specific features. Indeed, Forker (2014: 36) explicitly remarks that not all criteria in her canonical approach necessarily apply to all languages which impedes cross-linguistic comparison.

A notable alternative to the argument-adjunct distinction is the microrole approach developed for the Leipzig Valency Classes Project to facilitate the cross-linguistic comparison of 70 verbal meanings and their syntactic structures in 30 languages (Hartmann et al. 2013; Malchukov & Comrie 2015a,b). In this project the microroles for each of the 70 verbal meanings were defined as comparative concepts (e.g. ‘thinker’ and ‘thought content’ for the meaning ‘to think’) which meant that problems pertaining to argumenthood and adjuncthood described above could be avoided. For example, in Modern Standard Arabic (AF) ‘thought content’ is marked by the preposition *fī* and intuitively resembles an adjunct (Kász 2013) but in the Oceanic language Xârâcùù (PN) ‘thought content’ is seemingly not marked differently from other presumed arguments (Moyse-Faurie 2013b). This approach is a satisfactory solution for typological studies of specific sets of verbs but is not readily applicable to studies which are unrestricted in their scope regarding verbal semantics, including this book. However, the microrole approach importantly shows that an argument-adjunct distinction is not necessarily a prerequisite for cross-linguistic investigations of verbs. In the spirit of this approach, an attempt has been made to avoid the argument-adjunct distinction in the voice definitions presented in this book.

2.1.2 Transitivity and valency

Transitivity is omnipresent in linguistics and perhaps one of the most debated phenomena within the field. Indeed, Lazard (2002: 142) notes that transitivity “belongs to the oldest tradition of grammatical thinking in the Western world”, and Kittilä (2010: 346) remarks that transitivity is “one of the core areas of linguistics”. Furthermore, Dixon (1972: 128) argues that “[a]ll languages appear to have transitive and intransitive sentences” (see also Dixon 1979: 102; 1994: 6; 2000: 30; Dixon & Aikhenvald 2000: 2), and Hopper & Thompson (1982: 1) state that “[i]n many languages (and perhaps covertly in all languages) the transitivity relationship lies at the explanatory core of most grammatical processes”. In fact, as observed by Næss (2007: 2), the notion of transitivity appears to be so deeply rooted in linguistic tradition that it is “often used in a way which takes its content for granted, without any attempt at a precise definition”, and “there is no universally accepted definition which captures precisely the range of functions”. Instead, it is commonly assumed that a general abstract idea of the notion suffices.

LaPolla et al. (2011: 471) describe one conceptualisation of such an abstract idea in the following manner: “The traditional syntactic definition of transitivity says that a language has one or more constructions where two arguments are given special status in the clause as core (obligatory) arguments, as opposed to only one argument being given that status” (see also Croft 2003: 143). This approach essentially represents an intransitive-transitive dichotomy: clauses with one argument are intransitive while clauses with more than one argument are transitive. The perhaps most prominent advocate of this approach is Dixon (2010b: 116) who has stated that “[o]ne point to be stressed – and always kept in mind – is that *transitivity is a syntactic matter*” and that “[w]hen a clause is said to have a certain transitivity value, and when a verb is said to show certain transitivity possibilities, these are syntactic – not semantic – specifications” (original italics). Another notion similar to transitivity is valency, which dates back at least to the late 1940s (e.g. de Groot 1949: 114f.) though its consolidation as a linguistic term is generally attributed to Tesnière (1959: 238, 670), who defines it as the number of arguments a verb is “susceptible to govern” (*susceptible de régir*). Valency and transitivity differ in this respect, as clauses with one argument are valent but not transitive: intransitives are monovalent, (mono)transitives divalent. However, in light of the discussion concerning the argument-adjunct distinction in the previous section, syntactic approaches to transitivity and valency are inherently problematic if argumenthood cannot be properly defined. Even if it is assumed that arguments can be readily distinguished from adjuncts cross-linguistically, Haspelmath (2011a: 544) argue that other problems ensue: “[i]n

2 *Defining voices*

individual languages, precise criteria for distinguishing two major clause types ('transitive', 'intransitive') can be found (e.g., particular argument-indexing patterns, passivizability, or even inflectional classes), but they are quite diverse and not generalizable across languages".

A semantic approach to transitivity has been pioneered notably by Hopper & Thompson (1980: 253), who argue that the transitivity of a clause can be established according to ten features, each of which can be given a "high" or "low" value: i) participants, ii) kinesic, iii) aspect, iv) punctuality, v) volitionality, vi) affirmation, vii) mode, viii) agency, ix) affectedness, and x) individuation. The more "high" features a clause has, "the more Transitive it is – the closer it is to CARDINAL transitivity" (original small caps). In a similar spirit, Givón (2001a: 209; 2001b: 93) highlights the importance of agency, affectedness, and perfectivity in particular: a prototypical transitive event involves "a volitional, controlling, active, initiating agent responsible for the event" ("the salient cause"), "a non-volitional, inactive, non-controlling patient that registers the event's changes-of-state" ("the salient effect"), and its verb "codes an event that is telic (compact), perfective (bounded), sequential (non-perfect) and realis (non-hypothetical)". In turn, Næss (2007: 30) places emphasis on volitionality, instigation, and affectedness. According to her Maximally Distinct Arguments Hypothesis, "a prototypical transitive clause is one where the two participants are maximally semantically distinct in terms of their roles in the event described by the clause". More precisely, the two participants (agent and patient) are maximally distinct when the agent is volitional, instigating, and unaffected, and the patient non-volitional, non-instigating, and affected (Næss 2007: 44). Although these semantic approaches to transitivity are certainly more nuanced than syntactic approaches, they are not unproblematic either, primarily due to their reliance on "fuzzy" categorisation (Geeraerts 1989). Semantic approaches to transitivity tend to rely "on semantic prototype definitions that do not allow precise delimitation of transitive clauses from non-transitive clauses" (Haspelmath 2011a: 544) and "it is generally difficult to justify such prototypes, and prototypical definitions cannot be used for formulating testable generalizations" (Haspelmath 2016b: 313)].

For the reasons above, no attempt will be made to (re)define transitivity here. That is not to say that the various criteria according to which semantic transitivity is often defined are not of relevance themselves, only that they will not be treated collectively as defining criteria of an abstract notion of transitivity but treated individually wherever relevant.

2.1.3 Grammatical roles

Purported arguments (in contrast to adjuncts) are often classified according to their semantic and/or syntactic role in a clause. Traditionally, arguments have been classified as subjects, direct objects, and indirect objects – notions originally modelled on Indo-European languages and strongly associated with grammatical case: subject with the nominative case, direct object with the accusative case, and indirect object with the dative case. However, it is well-known that this traditional classification does not perform well cross-linguistically because case marking does not correlate with presumed subject- and objecthood in many languages – or lacks altogether. To account for such cross-linguistic variation, Dixon (1972: 59, 128) introduced the notions *s*, *A*, and *o* (alternatively, *p*), which he defined “intransitive subject”, “transitive subject”, and “transitive object”, respectively. This set of notions has later been complemented by notions relevant for ditransitives: *τ* and *g* (alternatively, *τ*) corresponding to a ditransitive direct object and a ditransitive indirect object, respectively (Croft 1990). These five notions have become widespread in linguistics, yet their meanings are commonly taken for granted, and Haspelmath (2011a: 536) argues that “it does not seem to be widely recognized yet that there are quite different and incompatible definitions of the SAPTR terms in the literature”.

Haspelmath (2011a) discerns three major approaches to the definitions of *s*, *A*, *p*, *τ*, and *g* in the literature: a Dixonian approach, a Comrian approach, and a Bickelian approach. The first approach is epitomised by Dixon’s (1972; 1979; 1994; 2010a; 2010b) definitions of the notions based on transitivity already mentioned above. In the Comrian approach the definitions of *A* and *p* are based more specifically on a so-called “prototypical transitive situation” in which the semantic agent is regarded as *A* and the semantic patient as *p* (e.g. Comrie 1981: 105; 1989: 11). In turn, a prototypical transitive situation – or a “typical two-argument clause” – involves a physical effect verb like ‘to kill sb.’ and ‘to break sth.’ (Haspelmath 2011a: 545ff.; see also Andrews 1985; 2007; Lazard 2002; Creissels 2006). Likewise, *τ* and *g* can be defined as “the theme and the recipient of typical physical transfers verbs of possession (‘give’, ‘lend’, ‘send’, etc.)” (Haspelmath 2011a: 558; see also Malchukov et al. 2010). By contrast, *s* can be defined as the sole argument in a one-argument clause, or as any argument that is marked or behaves like the sole argument in a one-argument clause (Haspelmath 2011a: 549f.). Finally, in the Bickelian approach the notions *s*, *A*, *p*, *τ*, and *g* represent generalised semantic roles which are not restricted to a specific type of verb (Nichols 2008; Bickel & Nichols 2009; Bickel et al. 2010; Bickel 2011; Witzlack-Makarevich 2011). Agents are characterised as causers of events, volitional, sentient, and exist inde-

pendently of events; while patients are typically affected by events, stationary relative to movement of other semantic participants, and/or undergo changes of state or in experience (Haspelmath 2011a: 554; see also Dowty 1991; Bickel et al. 2010: 384). In turn, A and P are the more agent-like and less agent-like arguments of a two-place predicate, respectively; and R and T the less patient-like and more patient-like arguments of the non-agent-like arguments of a three place-predicate, respectively (Bickel & Nichols 2009: 307; Bickel et al. 2010: 384).

The Dixonian approach is inherently problematic due to its reliance on notions of arguments (in contrast to adjuncts) and transitivity which have been discussed in the previous two sections. In turn, the Bickelian approach is essentially subject to the same criticism as semantic transitivity mentioned in the previous section because its definitions of agents and patients are based on fuzzy categorisation. It is, for instance, not clear why the specific criteria for agent- and patienthood are chosen over others, how they are assessed consistently cross-linguistically, nor how semantic participants with presumably equal status are treated (Haspelmath 2011a: 554ff.). The Comrian approach is not problematic per se, but the approach has not been adopted in this book due to its restrictive nature in terms of verbal semantics. While this is not an issue for alignment typology (in relation to which Haspelmath discusses S, A, P, T, and R in the first place), it will become evident in subsequent chapters that many examples presented in this book involve verbs that hardly qualify as prototypical transitive situations. Moreover, as demonstrated later in this chapter, the notions are not necessarily a prerequisite for voice definitions. In this book only two grammatical (or rather semanti) roles will be needed: a CAUSER defined as a semantic participant causing another semantic participant to do an action, and an AGENT defined minimally as the initiator of an action. While the latter definition might seem overly simplistic, the semantic role is only relevant to the definitions of passives and antipassives for which it suffices (§2.2.2).

2.1.4 Active voice

The notion of voice is prevalent in the literature and the tradition of distinguishing between different kinds of voices can be traced to the grammatical traditions pertaining to Classical Greek and Sanskrit (see, e.g., Kulikov 2010: 369; Zúñiga & Kittilä 2019: 1f.). Voice can essentially be perceived as a category (or “super-category”, Haspelmath & Müller-Bardey 2004: 1140) of one or more clausal structures defined according to pragmatic, semantic, and/or syntactic criteria. It is widely assumed that one voice is somehow more neutral and/or more frequent in discourse than other voices. This voice is traditionally called the active voice,

but other denotations have become increasingly common in the literature as well, often characterised by the adjective “basic” (e.g. Comrie 1989; Mel’čuk 1993; Cooreman 1994; Dixon 2000; Dixon & Aikhenvald 2000; Malchukov 2015; 2016; Haspelmath & Hartmann 2015), “unmarked” (e.g. Kazenin 2001a; Haspelmath & Müller-Bardey 2004), or “neutral” (e.g. Kulikov 2010).

Despite its omnipresence in linguistics, the active voice is rarely defined nor explicitly discussed, but it is generally assumed to be a highly productive and non-restricted clause type which is more frequent and somehow less marked than others (e.g. Comrie 1988: 19ff.). While a definition like this is seemingly straightforward in theory, it can be difficult to apply in practice. Firstly, for some languages it is difficult to argue that one clause type is more frequent than others. This is true for many languages with so-called “symmetrical voice” (Zúñiga & Kittilä 2019: 120ff.). For instance, in the Malayo-Sumbawan language Madurese (PN) “the distribution of actor voice and object voice fluctuates between roughly 50/50 to a 40/60 split” (Davies 2010: 257, 311). Secondly, in some languages the clause type intuitively assumed to represent an active voice is not necessarily less marked in terms of morphosyntactic marking compared to other clause types (§3.2.1). Thirdly, it can be difficult to properly measure and compare productivity cross-linguistically because few descriptive grammars include detailed information on the matter. For these reasons, the voice definitions presented in this book will not rely on the notion of an active voice. Instead, the definitions will be based on a comparison between any two clausal constructions that fulfill a number of criteria specified later, and no construction will be required to be more neutral than the other.

2.2 Voices redefined

As demonstrated in the previous sections, the notions of an argument-adjunct distinction, transitivity, grammatical roles, and an active voice are difficult to define and are consequently avoided in all the voice definitions presented in the following sections. The definitions of the passive, antipassive, reflexive, reciprocal, anticausative, causative, and applicative voices are instead based upon i) a comparison of two clausal constructions, ii) the number of semantic participants in the constructions, iii) the semantic roles of certain semantic participants in the constructions, and iv) the formal verbal marking of the constructions. The definitions represent comparative concepts avoiding language-specific criteria designed according to principles of cross-linguistic comparison outlined and advocated notably by Haspelmath (2010a; 2010b; 2011a; 2011b; 2014; 2016a; 2016b;

2018) as well as Croft (1990: 11f. 1995: 88; 2003: 13f.), Dryer (1997; 2016), Givón (2001a: 22ff.), Song (2001: 10ff.), and Stassen (2010). The definitions have transparent rigid boundaries and are based on as few criteria as possible to allow for maximum cross-linguistic diversity and because “comparative concepts based on fewer factors seem to have a greater chance of leading to deeper insights” (Haspelmath 2010a: 677).

2.2.1 Principles

The voice definitions presented in the following sections are all based on a comparison between two clausal constructions because it is difficult to argue that any given construction represents a passive, antipassive, reflexive, reciprocal, anticausative, or applicative voice if it is considered entirely in isolation. For the purpose of the following discussions, a clausal construction will henceforth be called a DIATHESIS. This term has notably been employed by the Leningrad-St. Petersburg Typology group according to which a “[d]iathesis is determined as a pattern of mapping of semantic arguments onto syntactic functions” (Kulikov 2010: 370; for a similar and more recent use of the term, see Zúñiga & Kittilä 2019: 4). However, it will become evident in the following sections that the link between semantic participants and their syntactic functions is of little importance to the voice definitions presented in this book, for which reason Kulikov’s (2010) definition is not adopted here. Instead, the term DIATHESIS is intended to be a neutral denotation for a clausal construction which can be conceptualised by a syntactic and a semantic level. As visualised in Figure 2.1, the semantic level of a diathesis features a semantic action alongside one or more semantic participants. As the topic of this book is syncretic voice marking, it is naturally required that the semantic action is expressed syntactically (hence the solid line in the figure). By contrast, the semantic participant(s) can be expressed either syntactically or remain implicit and deductible from wider context (hence the dotted line in the figure). Each semantic participant may have one or more semantic referents. For instance, the semantic participant ‘dog’ has one semantic referent (one dog) while the semantic participant ‘dogs’ has multiple referents (n number of dogs). This distinction between semantic participants and their referents is relevant for the definitions of the reflexive and reciprocal voices (§2.2.3).

The abstract interrelationship between two diatheses being compared to each other will henceforth be known as a DIATHETIC RELATION while the two diatheses themselves will be known arbitrarily as D_1 and D_2 . To ensure meaningful comparison of two diatheses in a diathetic relation, it is required that the actions in D_1 and D_2 have corresponding meanings on the semantic level and share the same

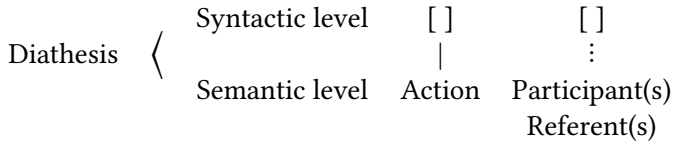


Figure 2.1: Syntactic and semantic model of a diathesis

verbal stem on the syntactic level (to avoid, e.g., suppletion). A diathetic relation qualifies as a passive, antipassive, reflexive, reciprocal, anticausative, causative, or applicative VOICE RELATION if it complies with one of the respective voice definitions presented later (for an overview of these definitions, see §2.2.6). In a voice relation either D_1 or D_2 qualifies as a passive, antipassive, reflexive, reciprocal, anticausative, causative, or applicative VOICE, as further specified in the respective voice definitions. In other words, a voice relation refers to a specific kind of diathetic relation, and a voice refers to a specific kind of diathesis. Thus, in this book the term VOICE is strictly used in reference to passives, antipassives, reflexives, reciprocals, anticausatives, causatives, and applicatives and not to any other kinds of diatheses. The definitions of the seven voices are based on one of two types of diathetic relation: in one type D_1 and D_2 feature the exact same number of semantic participants, and in another type D_2 features exactly one semantic participant more than D_1 . These two types are visualised in Figure 2.2. The bidirectional arrow in the figure indicates that D_1 and D_2 are compared on par with each other, and neither is considered “derived”. Both D_1 and D_2 are here represented by the semantic level alone: v denotes a semantic action and p a semantic participant. Subscript n denotes a finite number of semantic participants. It will become evident in the following sections that the first type of diathetic relation (fig. 2.2a) underlies the definitions of the passive and antipassive voices, while the second type of diathetic relation (fig. 2.2b) underlies the definitions of the reflexive, reciprocal, causative, anticausative, and applicative voices.

- a. $D_1 (v, p_n) \leftrightarrow D_2 (v, p_n)$
- b. $D_1 (v, p_n) \leftrightarrow D_2 (v, p_{n+1})$

Figure 2.2: Types of diathetic relations

A difference in the verbal marking between D_1 and D_2 in a voice relation constitutes VOICE MARKING and minimally consists of an affix. The term AFFIX is here used in a generic sense and can refer to any marking on the verb (including suprasegmental features and reduplication) or phonologically dependent on the

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verb (including clitics). A detailed discussion of what exactly constitutes an affix (or a clitic for that matter) lies beyond the scope of this book, and in practice the book relies on the analyses and word boundaries presented and preferred by the authors of the grammars and other publications from which the data for the typological survey in this book have been sourced (see Appendix A). Furthermore, observe that verbal marking that forms part of a language's formal agreement system is not regarded as voice marking. This restriction is adopted to limit the scope of the book and because such marking by itself is not traditionally considered a defining characteristic of voices. Thus, verbal marking dedicated solely to, say, person and/or number agreement is not considered voice marking per se. It is important to note, however, that this restriction does not necessarily exclude fusional voice marking found in, for example, many Indo-European languages. Consider, for instance, the Classical Greek first and third person "active" markers \bar{o} and $-ei$ and the contrasting first and third person "middle" markers $-omai$ and $-etai$ (the language has many more such pairs, Zúñiga & Kittilä 2019: 169). If the markers in each pair are compared to each other in accordance with the principles outlined above (i.e. $D_1 \bar{o} \leftrightarrow D_2 -omai$ and $D_1 -ei \leftrightarrow D_2 -etai$) there is a difference in the verbal marking between D_1 and D_2 in each case, even though no single middle (or active) marker can be discerned. If a comparison between D_1 and D_2 fulfills any other criteria of a given voice definition, it qualifies as that particular voice – and the associated verbal marking qualifies as voice marking. Accordingly, in the case of Classical Greek, each of the language's many fusional middle markers qualifies as passive, reflexive, and anticausative voice marking. In other words, the middle markers serve other function than merely indicating agreement. The exact number of passive, reflexive, and anticausative voice markers in the language is irrelevant because one marker (say $-omai$ or $-etai$) suffices to determine whether or not the language features any voice syncretism (e.g. passive-reflexive syncretism: $lou\bar{o}$ 'I wash sth.' \leftrightarrow $lou\bar{o}omai$ 'I am washed [by sb.]' or 'I wash myself').

By contrast, "symmetrical voice" (Zúñiga & Kittilä 2019: 120ff.) is generally an intrinsic part of a language's formal agreement and is therefore not regarded as voice marking in this book. Languages featuring symmetrical voice possess two (e.g. direct-inverse or Indonesian-type marking) or more (e.g. Philippine-type marking) types of diatheses with roughly equal status but with different marking patterns (Arka & Ross 2005: 7), and the use of a given diathesis is based on various language-specific criteria related to semantic participants and their agreement. By illustration, in the language isolate Movima (PN) direct marking ($-na$ or $<a>$) is employed "when two third-person participants are ranked equally

in terms of discourse status”, whereas inverse marking (*-kay*) is “restricted to the situation in which the undergoer outranks the actor with regard to person and discourse prominence” (Haude 2012: 265). Likewise, in Austronesian alignment specific voices are associated with certain syntactic marking patterns for semantic participants. For instance, in the Greater Central Philippine language Tagalog (PN) an actor is syntactically marked nominative and a patient genitive in the “Actor Voice”, while their case marking is swapped in the “Patient Voice”. In other marking patterns both semantic participants are marked genitive, while a location and an instrument are marked nominative in the “Locative Voice” and the “Instrumental Voice”, respectively (Zúñiga & Kittilä 2019: 125ff.). The closely related language Cebuano (PN) is largely similar to Tagalog, and Tanangkingsing (2009: 40) notes that “through these voice forms we can generally predict the semantic role of the nominative argument”. Nevertheless, this does not mean that languages with symmetrical marking do not feature any of the voices of focus in this book. On the contrary, the majority of the Austronesian languages included in the language sample feature applicative, causative, and/or reflexive voices (see Appendix C). For instance, in the Northern Luzon language Dupanangan Agta (PN) the prefix *i-* characterising the language-specific Theme Voice can serve as voice marking in the applicative voice when the prefix is added onto verbs in the language-specific “Locative Voice”, e.g. *alap-an* ‘to get sth.’ ↔ *i-alap-an* ‘to get sth. for sb.’ (Robinson 2011a: 157ff., 161ff.).

Finally, for a certain voice to be attested in a language, its voice marking must be productive, yet productivity can be difficult to measure in a uniform manner cross-linguistically (§2.1.4). For the sake of consistency, voice marking is considered productive if it is attested with *more than one* verb in a given language. As a result, some cases of voice marking labelled unproductive in the literature are here considered productive. This broad inclusion is considered an advantage, however, as low-frequent voices can prove interesting in their own right, for instance from a diachronic perspective. Nevertheless, for the sake of transparency, syncretic voice marking labelled or described as unproductive for one or more voices in the literature is duly marked by an obelus (†) in Appendix C.

2.2.2 Passives and antipassives

As noted in the previous section, passive and antipassive voice relations are characterised by two diatheses (D_1 and D_2) that both have the same number of semantic participants, as visualised in Figure 2.2a on page 21 and reproduced here for convenience. This interdiathetic comparison serves as the foundation for the passive and antipassive definitions presented in this section and differentiates them

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from the reflexive, reciprocal, causative, anticausative, and applicative voice relations discussed in subsequent sections. The interdiathetic comparison also reflects the general understanding of the passive and antipassive voices in the literature where some semantic participant in either one of the voices is often described as being somehow demoted and/or omitted syntactically yet semantically implicit.

$$D_1(V, P_n) \leftrightarrow D_2(V, P_n)$$

This book maintains a fundamental distinction between ABSOLUTE passive and antipassive voices on the one hand, and NON-ABSOLUTE passive and antipassive voices on the other hand. The former kind of passive voice is generally known as “agentless passive” in the literature (e.g. Dixon & Aikhenvald 2000: 7; Kulikov 2010: 374) but is here called absolute passive by analogy with the absolute antipassive voice (e.g. Haspelmath & Müller-Bardey 2004: 1131; Malchukov 2015: 98). The absolute (or agentless) passive and the absolute (or absolutive) antipassive voice relations basically involve one semantic participant which cannot be expressed syntactically, unlike the non-absolute passive and the non-absolute antipassive voice relations which involve semantic participants that can all be expressed syntactically, though one semantic participant is less likely to be so. The absolute passive and antipassive are here discussed first, whereas the non-absolute passive and antipassive are discussed further below. The following absolute passive definition establishes both an absolute passive voice relation and an absolute passive voice, while the absolute antipassive definition establishes both an absolute antipassive voice relation and an absolute antipassive voice. As noted in §2.1.3, an AGENT is defined minimally as the initiator of an action. However, observe that all verbs do not involve a readily identifiable agent, including for example experiencer verbs (e.g. ‘to fear’) which feature a stimulus and experiencer, neither of which can really be said to initiate an action. Although such verbs can appear in language-specific passive or antipassive constructions in some languages (cf. Danish *frygte-s* ‘to be feared [by sb.]’), they do not comply with the passive and antipassive definitions presented here and are thereby excluded from the discussion. Nevertheless, in terms of voice marking and voice syncretism, this exclusion is unlikely to have any noticeable effect on the findings of this book. Even though some verbs in some languages might be excluded by the passive and antipassive definitions presented here, languages feature many other verbs that can potentially comply with the definitions – given that the other criteria of the definitions are fulfilled as well (cf. Danish *dræbe-s* ‘to be killed [by sb.]’). Thus, the minimal definition of an agent employed in the passive and antipassive

definitions presented here suffices for capturing passive and antipassive voice marking cross-linguistically (like the suffix *-s* in Danish).

Definition of absolute passive

An ABSOLUTE PASSIVE VOICE RELATION denotes a diathetic relation involving two diatheses, D_1 and D_2 , if a comparison between these diatheses fulfills the criteria below; while an ABSOLUTE PASSIVE VOICE denotes D_2 in the beforementioned voice relation.

- i) D_1 and D_2 feature the same number of semantic participants, one of which is an agent.
- ii) One semantic participant in D_2 cannot be expressed syntactically.
- iii) The abovementioned semantic participant is the agent.
- iv) The verbs in D_1 and D_2 differ in terms of verbal marking.

Definition of absolute antipassive

An ABSOLUTE ANTIPASSIVE VOICE RELATION denotes a diathetic relation involving two diatheses, D_1 and D_2 , if a comparison between these diatheses fulfills the criteria below; while an ABSOLUTE ANTIPASSIVE VOICE denotes D_2 in the beforementioned voice relation.

- i) D_1 and D_2 feature the same number of semantic participants, one of which is an agent.
- ii) One semantic participant in D_2 cannot be expressed syntactically.
- iii) The abovementioned semantic participant is *not* the agent.
- iv) The verbs in D_1 and D_2 differ in terms of verbal marking.

The absolute passive and absolute antipassive definitions are here illustrated by diathetic relations in the Finnic language Finnish (EA; **1a**↔**1b**) and the Oceanic language Tolai (PN; **2a**↔**2b**). In each diathetic relation D_1 (i.e. **1a** and **2a**) and D_2 (i.e. **1b** and **2b**) feature the same number of semantic participants (first criterion). Furthermore, one semantic participant in D_2 (i.e. the semantic participant eating

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the ice cream in 1b and the semantic participant being hit in 2b) cannot be expressed syntactically (second criterion). Additionally, D_1 and D_2 in both diathetic relations differ in terms of verbal marking (cf. *-tiin* in Finnish and *ki~* in Tolai; fourth criterion). Finally, the diathetic relation in Finnish qualifies as an absolute passive voice relation because the semantic participant eating ice cream is an agent, while the diathetic relation in Tolai qualifies as an absolute antipassive voice relation because the semantic participant being hit is not an agent (third criterion). According to the absolute passive definition, D_2 in the Finnish absolute passive voice relation represents an absolute passive voice; and according to the absolute antipassive definition, D_2 in the Tolai absolute antipassive voice relation represents an absolute antipassive voice.

(1) Finnish (personal knowledge)

- a. *poika söi jäätelö-n*
boy.NOM eat.PST.3SG ice.cream-ACC
'The boy ate the ice cream'.
- b. *jäätelö syö-tiin*
ice.cream.NOM eat-PST.PASS
'The ice cream was eaten'.

(2) Tolai (Mosel 1991: 248)

- a. *a vavina i kita ra bul*
ART woman she hit ART child
'The woman hit the child'.
- b. *a vavina i ki~kita*
ART woman she ANTP~hit
'The woman hit'.

In both the Finnish and Tolai voice relations the verb in D_2 features additional verbal marking compared to the verb in D_1 . However, the absolute passive and antipassive definitions also encompass diathetic relations in which D_1 and D_2 differ in terms of verbal marking (as required by the fourth criterion) but neither diathesis features additional verbal marking compared to the other. For instance, consider the following absolute passive voice relation in the Semitic language Modern Standard Arabic (AF; 3a ↔ 3b) in which the verb in D_2 does not feature additional verbal marking compared to the verb in D_1 nor vice versa (cf. *kataba* ↔ *kutiba*). Similar examples of absolute antipassive voices relations in the Algonquian language Arapaho (NA) are provided in Table 4.6 on page 94.

(3) Modern Standard Arabic (Abu-Chacra 2007: 130)

- a. *kataba* *l-mu'allim-u* *l-kitāb-a*
 write.ACTIVE.PST.3SG.M DEF-teacher.M-NOM DEF-book.M-ACC
 'The teacher wrote the book'.
- b. *kutiba* *l-kitāb-u*
 write.PASS.PST.3SG.M DEF-book.M-NOM
 'The book was written'.

Next, the following non-absolute passive definition establishes a non-absolute passive voice relation and a non-absolute passive voice, while the non-absolute antipassive definition establishes a non-absolute antipassive voice relation and a non-absolute antipassive voice. These definitions share the first and third criteria with the absolute passive and antipassive definitions but differ with regard to the second and third criteria. The non-absolute passive and non-absolute antipassive definitions are based on the assumption that one semantic participant in one diathesis (D_2) is less likely to be expressed syntactically than others, as specified in the second criterion. This criterion reflects the demotion often associated with the passives and antipassives in the literature, and even applies to languages in which semantic participants are commonly omitted for a variety of reasons. If need be, certain semantic participants are more likely to be expressed syntactically than others. Cases in which no semantic participant seems to be less likely expressed syntactically are simply excluded by the definitions.

Definition of non-absolute passive

A NON-ABSOLUTE PASSIVE VOICE RELATION denotes a diathetic relation involving two diatheses, D_1 and D_2 , if a comparison between these diatheses fulfills the criteria below; while a NON-ABSOLUTE PASSIVE VOICE denotes D_2 in the beforementioned voice relation.

- i) D_1 and D_2 feature the same number of semantic participants, one of which is an agent.
- ii) One semantic participant in D_2 is less likely to be expressed syntactically than other semantic participants.
- iii) The abovementioned semantic participant is the agent.
- iv) The verb in D_2 has additional marking compared to the verb in D_1 .

Definition of absolute antipassive

A NON-ABSOLUTE ANTIPASSIVE VOICE RELATION denotes a diathetic relation involving two diatheses, D_1 and D_2 , if a comparison between these diatheses fulfills the criteria below; while a NON-ABSOLUTE ANTIPASSIVE VOICE denotes D_2 in the beforementioned voice relation.

- i) D_1 and D_2 feature the same number of semantic participants, one of which is an agent.
- ii) One semantic participant in D_2 is less likely to be expressed syntactically than other semantic participants.
- iii) The abovementioned semantic participant is *not* the agent.
- iv) The verb in D_2 has additional marking compared to the verb in D_1 .

The non-absolute passive and non-absolute antipassive definitions are here illustrated by diathetic relations in the Central Cushitic language Khimt'anga (AF; 4a↔4b) and the Northern Chukotko-Kamchatkan language Chukchi (EA; 5a↔5b). In each diathetic relation D_1 (i.e. 4a and 5a) and D_2 (i.e. 4b and 5b) feature the same number of semantic participants (first criterion). Furthermore, one semantic participant in D_2 (i.e. the semantic participant eating the bread in 4b and the semantic participant being caught in 5b) is less likely to be expressed syntactically than other semantic participants (second criterion). Additionally, D_2 in both diathetic relations features additional verbal marking compared to D_1 (cf. *-ifit* in Khimt'anga and *ine-* in Chukchi; fourth criterion). Finally, the diathetic relation in Khimt'anga qualifies as a non-absolute passive voice relation because the semantic participant eating the bread is an agent, while the diathetic relation in Chukchi qualifies as a non-absolute antipassive voice relation because the semantic participant being caught is not an agent (third criterion). According to the non-absolute passive definition, D_2 in the Khimt'anga non-absolute passive voice relation represents a non-absolute passive voice; and according to the non-absolute antipassive voice definition, D_2 in the Chukchi non-absolute antipassive voice relation represents a non-absolute antipassive voice.

(4) Khimt'anga (Teshome 2015: 235)

- a. $\text{\textit{\textcircled{a}d\textit{z}ir-d} \ \chi ab\textit{\textcircled{a}f\textit{\textcircled{a}}-d} \ \chi^w\textit{-}\textit{\textcircled{O}}\textit{-u}}$
 man-DEF bread-DEF eat-3SG.M-PFV
 'The man ate the bread'.

- b. $\chi abəʃə-d$ [$ədʒir-iz$] $\chi^w-ʔifit-Ø-u$
 bread-DEF man-INS eat-PASS-3SG.M-PFV
 ‘The bread was eaten [by the man]’.

(5) Chukchi (Polinsky 2017: 314)

- a. $ʔətt-e$ $melota-lyən$ $piri-nin$
 dog-ERG hare-ABS catch-AOR.3SG:3SG
 ‘The dog caught a/the hare’.
- b. $ʔətt-ən$ ***ine***- $piri-ʔi$ [$melot-etə$]
 dog-ABS ANTP-catch-AOR.3SG hare-DAT
 ‘The dog caught [a/the hare]’.

Observe that the verb in D_2 is required to have additional marking compared to the verb in D_1 according to the fourth criterion in the definitions of non-absolute passive and antipassive voice relations, unlike in the definitions of absolute passive and antipassive voice relations. This requirement ensures a successful identification of D_2 in non-absolute passive and antipassive voice relations in cases where two diatheses feature a semantic participant which is less likely to be expressed syntactically. For example, although that which is eaten is expressed syntactically in the Khimt’anga diathesis in (4a), it can alternatively be omitted depending on context (Teshome 2015: 345). If the verbs in D_1 and D_2 were only required to differ in terms of verbal marking, the diathesis in (4a) would qualify equally well as D_1 and D_2 – and so would the diathesis in (4b). One consequence of the fourth criterion is that non-absolute passive and antipassive counterparts to the absolute passive and antipassive diathetic relations described for Modern Standard Arabic and Arapaho are excluded by the definitions. Consider, for instance, the three diathetic relations in the Interior Salish language Nxa’amxcin (NA) in Table 2.1 in which neither diathesis features additional verbal marking. From a language-specific perspective, the “antipassive” suffix on the right side of the bidirectional arrow (i.e. *-m*) is simply in variation with a “transitive” suffix (e.g. *-stu*, *-nt*, and *-lt*) on the left side of the arrow. The diathetic relations otherwise fulfill all criteria (but the fourth) in the non-absolute antipassive voice definition *if* it is assumed that the diatheses featuring the suffix *-m* are identified as D_2 . The closely related Central Salish language Musqueam (NA) features a very similar phenomenon (Suttles 2004).

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Table 2.1: Diathetic relations in Nxa’amxcin (Willett 2003: 103, 164, 190)

| | | | | |
|---------------------|-----------------|---|-------------------|-------------------|
| <i>ʔaw’tap-stu-</i> | ‘to follow sb.’ | ↔ | <i>ʔaw’tap-m-</i> | ‘to follow [sb.]’ |
| <i>p’iq-nt-</i> | ‘to cook sth.’ | ↔ | <i>p’iq-m-</i> | ‘to cook [sth.]’ |
| <i>wik-ɬ-</i> | ‘to see sth.’ | ↔ | <i>wik-m-</i> | ‘to see [sth.]’ |

It is difficult to establish a cross-linguistically comparable criterion according to which D_2 can be successfully identified in diathetic relations like those illustrated for Nxa’amxcin in Table 2.1. One solution would be to alter the fourth criterion of the non-absolute antipassive definition so that it requires only that the verbs in D_1 and D_2 differ in terms of verbal marking (as in the absolute antipassive definition) and then specify that D_1 represents an active voice unlike D_2 . However, as already discussed in §2.1.4, an active voice poses its own definitional problems. Instead, for the sake of consistency, the phenomena described for Nxa’amxcin and Musqueam are simply not recognised as proper non-absolute antipassives as they do not comply fully with the non-absolute antipassive definition. However, the phenomena in the two languages is henceforth called “antipassive-like” (referring to the language-specific constructions in the respective languages) and will be mentioned a few times in subsequent chapters, although they are kept strictly separated from proper antipassives. No other languages in the language sample feature similar phenomena, and no corresponding “passive-like” phenomenon has been attested in the sample either. Likewise, as the definitions of both absolute and non-absolute passive and antipassive voice relations require that the verbal marking in D_1 and D_2 must differ somehow, “uncoded alternations” of various kinds described as passive or antipassive in the literature (e.g. Zúñiga & Kittilä 2019: 188ff.) are not covered by this book. Consequently, diathetic relations like the following in the Western Mande language Bambara (AF; 6a↔6b) and the Oceanic language East Uvean (PN; 7a↔7b) qualify as neither passive nor antipassive voice relations.

(6) Bambara (Creissels 2016: 112)

- a. *wùlû má sògô dún*
dog.DET NEG meat.DET eat
‘The dog did not eat the meat’.
- b. *sògô má dún [wùlú fɛ]*
meat.DET NEG eat dog.DET beside
‘The meat was not eaten [by the dog]’.

(7) East Uvean (Creissels 2016: 110)

- a. *‘e huo e Soane tana gāue‘aga ‘ufi*
 NPST weed ERG Soane his field yam
 ‘Soane is weeding his yam field’.
- b. *‘e huo ia Soane*
 NPST weed ABS Soane
 ‘Soane is weeding’.

Furthermore, note that it is not specified how semantic participants ought to be marked morphosyntactically in the definitions of the passive and antipassive voices presented in this section. Such specifications are otherwise common in definitions of the voices in the literature. For instance, it is commonly stated that an object or O/P becomes or behaves like a subject or s in passives, and that A becomes or behaves like s in antipassives (e.g. Dixon 2000: 32; Dixon & Aikhenvald 2000: 7ff.; Peterson 2007: 200f.; Kulikov 2010: 371, 380; Malchukov 2016: 412). Likewise, it is often specified that demoted agents in passives and demoted patients in antipassives are marked in some oblique fashion, if they are not omitted in the first place – in other words, treated like adjuncts. As already argued in §2.1, the various notions mentioned here are difficult to define and are often language-specific, for which reason they are avoided here. Moreover, languages appear to differ greatly in terms of how they mark semantic participants in passives and antipassives, and it is therefore hardly feasible to include one kind of marking in definitions thereof but exclude other kinds.

For the sake of illustration, consider the following diathetic relations in the Uto-Aztecan language Ute (EA; 8a↔8b) and the Southeastern Pama-Nyungan language Bandjalang (AU; 9a↔9b). In language-specific terms, in Ute the object ‘the meat’ marked by the oblique case in the active voice (8a) does not become nor behave like a subject in the passive voice but retains its oblique marking (8b). The distinction between the two cases in this language is visible only in the voicing of the last vowel: in the nominative case it is devoiced, but in the oblique case it is voiced (Givón 2011: 93f.). Likewise, in Bandjalang the demoted object ‘water’ (9a) retains its absolutive case marking in the antipassive voice (9b). Diathetic relations like these are often regarded as problematic in relation to existing passive and antipassive definitions due to their argument marking. Nevertheless, the diathetic relations in question comply perfectly with the passive and antipassive definitions presented in this section and accordingly qualify as passive and antipassive voice relations, respectively. Examples similar to that in Ute can be found in the language isolate Chabu (AF; Kibebe 2015: 282ff.), and

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examples similar to that in Bandjalang can be found in the Katukinan language Katukina-Kanamari (SA; [dos Anjos 2011](#): 350). Another interesting example comes from the Samoyedic language Tundra Nenets (EA) in which the passive agent is marked by the nominative case if it is a pronoun, exactly like the passive subject ([Nikolaeva 2014](#): 240f.; p.c. June 27th, 2019).

(8) Ute ([Givón 2011](#): 249f.)

- a. *ta'wachi tukuavi tuka-qa*
man.NOM meat.OBL eat-PST
'The man ate the meat'.
- b. *tukuavi tuka-ta-qa*
meat.OBL eat-PASS-PST
'The meat was eaten'.

(9) Bandjalang ([Austin 1982](#): 38 via [Kittilä 2002](#): 201; [2015](#): 347)

- a. *ngaju juga-ala nyabay*
1SG.ERG drink-PRS water.ABS
'Soane is weeding his yam field'.
- b. *ngay juga-le-la [nyabay]*
1SG.NOM drink-ANTP-PRS water.ABS
'I am drinking [water] repeatedly'.

Finally, observe that – if not otherwise specified – in this book absolute and non-absolute passive are mostly treated indiscriminately as passive, and absolute and non-absolute antipassives indiscriminately as antipassive. Thus, henceforth a PASSIVE VOICE RELATION serves as a shorthand for both an absolute passive voice relation and a non-absolute passive voice relation, while a PASSIVE VOICE serves as a shorthand for both an absolute passive voice and a non-absolute passive voice. Likewise, henceforth an ANTIPASSIVE VOICE RELATION serves as a shorthand for both an absolute antipassive voice relation and a non-absolute antipassive voice relation, while an ANTIPASSIVE VOICE serves as a shorthand for both an absolute antipassive voice and a non-absolute antipassive voice.

2.2.3 Reflexives and reciprocals

Unlike the passive and antipassive voice relations discussed in the previous section, reflexive and reciprocal voice relations are characterised by one diathesis (D_2) featuring one semantic participant more than another diathesis (D_1). This

interdiathetic comparison has been visualised on page 21 in Figure 2.2b which is reproduced below, and reflects the contrast found in the literature on reflexivity and reciprocity between action upon self/selves or each other on the one hand, and action upon another semantic participant on the other hand.

$$D_1 (v, p_n) \leftrightarrow D_2 (v, p_{n+1})$$

The following reflexive definition establishes both a reflexive voice relation and a reflexive voice, while the reciprocal definition establishes both a reciprocal voice relation and a reciprocal voice. The definitions are each based on four criteria. The first criterion reflects the interdiathetic comparison shown above, and is also shared by the causative, anticausative, and applicative definitions presented in the following sections. The second and third criteria serve to differentiate the reflexive and reciprocal voice relations from those voice relations. In turn, the fourth criterion serves to differentiate the reflexive and reciprocal voice relations from each other. Note that the fourth criterion in the reflexive definition covers both so-called distributive and collective reflexivity, in other words it is not relevant whether or not the referents are perceived as individuals or groups (Zúñiga & Kittilä 2019: 159ff.). Likewise, the fourth criterion in the reciprocal definition covers most “semantic configurations” of reciprocity, including so-called strong, pair, melee, radial, ring, and chain reciprocity (Majid et al. 2011; Evans et al. 2011). No distinction is made here between these configurations.

Definition of reflexive

A REFLEXIVE VOICE RELATION denotes a diathetic relation involving two diatheses, D_1 and D_2 , if a comparison between these diatheses fulfills the criteria below; while a REFLEXIVE VOICE denotes D_2 in the voice relation.

- i) D_2 features one semantic participant more than D_1 .
- ii) The additional semantic participant in D_2 is not a causer.
- iii) The verb in D_1 has additional marking compared to the verb in D_2 .
- iv) One or more referents of one semantic participant in D_1 act(s) upon *self/selves*.

Definition of reciprocal

A RECIPROCAL VOICE RELATION denotes a diathetic relation involving two diatheses, D_1 and D_2 , if a comparison between these diatheses fulfills the criteria below; while a RECIPROCAL VOICE denotes D_2 in the voice relation.

- i) D_2 features one semantic participant more than D_1 .
- ii) The additional semantic participant in D_2 is not a causer.
- iii) The verb in D_1 has additional marking compared to the verb in D_2 .
- iv) Two or more referents of one semantic participant in D_1 act upon *each other*.

The reflexive and reciprocal voice relations differ from the causative and anticausative voice relations with regard to the second criterion. In the causative and anticausative voice relations the additional semantic participant in D_2 is a causer, unlike in the reflexive and reciprocal voice relations. For instance, consider the following reflexive voice relation in the Hokan language Chimariko (NA; 10a↔10b) as well as the causative voice relation in the Barbacoan language Awa Pit (SA; 11a↔11b). In the Chimariko reflexive voice relation the additional semantic participant in D_2 (i.e. ‘this person’ in 10b) is not a causer unlike the additional semantic participant in D_2 in the Awa Pit causative voice relation (i.e. ‘Carmen’ in 11b). By contrast, the applicative voice relation is similar to the reflexive and reciprocal voice relations in terms of the second criterion. Consider, for example, the applicative voice relation in the Muskogean language Creek (NA; 12a↔12b) in which the additional semantic participant in D_2 (i.e. ‘pen’ in 12b) is used to realise the action of writing, supplying ink, but does not cause ‘Bill’ to do the action itself. The reflexive and reciprocal voice relations are instead differentiated from the applicative voice relation by the third criterion in their definitions. In the applicative voice relation, the verb in D_2 has additional marking compared to the verb in D_1 (cf. Creek *is-* in 12b), unlike in the reflexive and reciprocal voice relations in which the opposite is true (cf. Chimariko *-ye’w* in 10a).

(10) Chimariko (Jany 2009: 121)

- a. *y-ek^ho-ye’w-xana-t* *no’ot*
1SG.A-kill-REFL-FUT-ASP 1SG
‘I am going to kill myself’.

- b. *noʔot p^haʔmot č'imar-ot y-ek^ho-xana-t*
 1SG DET person-DEF 1SG.A-kill-FUT-ASP
 'I am going to kill this person'.

(11) Awa Pit (Curnow 1997: 159f.)

- a. *Jaime maza atal pay-ti-zi*
 Jaime one chicken buy-PST-NLOCUT
 'Jaime bought a chicken'.
- b. *Carmen=na Jaime=ta maza atal pay-nin-ti-zi*
 Carmen=TOP Jaime=ACC one chicken buy-CAUS-PST-NLOCUT
 'Carmen caused Jaime to buy a chicken'.

(12) Creek (Martin 2011: 392)

- a. *Bill có·ka-n hó·cceyc-ís*
 Bill letter-OBL write.ASP-IND
 'Bill is writing a letter'.
- b. *Bill isho·ccéycka có·ka-n is-hó·cceyc-ís*
 Bill pen letter-OBL APPL-write.ASP-IND
 'Bill is writing a letter with a pen'.

The fourth criterion in the reflexive and reciprocal definitions is used to distinguish the reflexive and reciprocal voice relations from each other. Compare the reflexive voice relation already discussed for Chimariko (10a↔10b) to the following reciprocal voice relation in the Oceanic language Nêlêmwa (PN; 13a↔13b). The referent of the semantic participant 'I' acts upon itself in D_1 in the Chimariko reflexive voice (10a), while the referents of the semantic participant 'those women' are watching each other in D_1 in the Nêlêmwa reciprocal voice (13a).

(13) Nêlêmwa (Bril 2007: 1490)

- a. *hli pe-alu-i hliili thaamwa*
 3DU RECP-watch-RECP those woman
 'Those women are watching each other'.
- b. *hli alu i na a hliili thaamwa*
 3DU watch CONN 1SG AG those woman
 'Those women are watching me'.

2 Defining voices

As a consequence of the third criterion in the reflexive and reciprocal definitions, both periphrastic and “uncoded” reflexives and reciprocals of various kinds (e.g. Zúñiga & Kittilä 2019: 151ff., 195ff.) are excluded from the discussions in this book. Thus, diathetic relations like the following ones in the Lowland East Cushitic language Konso (AF; 14a↔14b) and the Finnic language Tver Karelian (EA; 15a↔15b), in which reflexivity and reciprocity is marked solely by pronouns, qualify as neither reflexive nor reciprocal voices as they feature no verbal voice marking. However, observe that diathetic relations which feature periphrastic marking in addition to voice marking do comply with the definitions (§3.2.1).

(14) Konso (Ongaye 2013: 51, 134)

- a. *anti-ʔ isi in=faɕ-ay*
1SG-NOM self 1=wash-PFV.3.M
‘I washed myself’.
- b. *anti-ʔ toma-siʔ kutt-a in=faɕ-ay*
1SG-NOM bowl-DEF.M/F be.big-M/F 1=wash-PFV.3.M
‘I washed the big bowl’.

(15) Tver Karelian (fieldwork)

- a. *hüö anne-ttih toine toize-lla dengua*
3PL give-PST.3PL each other-ADE money.PART
‘They gave each other money’.
- b. *hüö anne-ttih lapš-i-lla dengua*
3PL give-PST.3PL child-PL-ADE money.PART
‘They gave the children money’.

As noted in the previous section, passive and antipassive definitions in the literature commonly specify how certain semantic participants ought to be marked morphosyntactically, and this is also true for reflexive and reciprocal definitions (e.g. Dixon & Aikhenvald 2000: 11; Mel’čuk 1993: 16; Givón 2001b: 95ff.; Kulikov 2010: 384f.). However, in comparison with the passive and antipassive voices, there seems to be less cross-linguistic diversity concerning such marking in the reflexive and reciprocal voices. In any case, as demonstrated in this section such specifications are not needed to define reflexives and reciprocals.

2.2.4 Causatives and anticausatives

The causative and anticausative voice relations are characterised by one diathesis (D_2) featuring one semantic participant more than another diathesis (D_1), and

in this respect the relations in question bear resemblance to the reflexive and reciprocal voice relations described in the previous section. This interdiathetic comparison has already been visualised on page 21 in Figure 2.2b reproduced below, and serves as the foundation for the causative and anticausative definitions presented in this section. The interdiathetic comparison complies with the general understanding of both causativity and anticausativity in the literature: the former phenomenon is often believed to add a semantic participant, a causer, into a situation (e.g. Mel'čuk 1993: 11; Dixon 2000: 30ff. Dixon & Aikhenvald 2000: 13; Haspelmath & Müller-Bardey 2004: 1136f.; Kulikov 2010: 386; Malchukov 2015: 96, 122; 2017: 412), while the latter is believed to remove a causer from a situation (e.g. Mel'čuk 1993: 11; Dixon & Aikhenvald 2000: 7; Haspelmath & Müller-Bardey 2004: 1132; Kulikov 2010: 392; Malchukov 2015: 90, 96f.).

$$D_1 (V, P_n) \leftrightarrow D_2 (V, P_{n+1})$$

The following causative definition establishes both a causative voice relation and a causative voice, while the anticausative definition establishes both an anticausative voice relation and an anticausative voice. The definitions are each based on three criteria, the first criterion of which is also shared by the reflexive, reciprocal, and applicative definitions. In turn, the second criterion serves to differentiate the causative and anticausative voice relations from those three voice relations, as already illustrated in the previous section. Thus, the first and second criteria are the same in both the causative and anticausative definitions, and the voice relations are ultimately differentiated by the third criterion.

Definition of causative

A CAUSATIVE VOICE RELATION denotes a diathetic relation involving two diatheses, D_1 and D_2 , if a comparison between these diatheses fulfills the criteria below; while a CAUSATIVE VOICE denotes D_2 in the voice relation.

- i) D_2 features one semantic participant more than D_1 .
- ii) The additional semantic participant in D_2 is a causer.
- iii) The verb in D_2 has additional marking compared to the verb in D_1 .

Definition of anticausative

AN ANTICAUSATIVE VOICE RELATION denotes a diathetic relation involving two diatheses, D_1 and D_2 , if a comparison between these diatheses fulfills the criteria below; while an ANTICAUSATIVE VOICE denotes D_2 in the voice relation.

- i) D_2 features one semantic participant more than D_1 .
- ii) The additional semantic participant in D_2 is a causer.
- iii) The verb in D_1 has additional marking compared to the verb in D_2 .

The difference between the third criterions in the two definitions is illustrated by the following diathetic relations in the Huitotoan language Bora (SA; 16a ↔ 16b) and the Mon-Khmer language Kammu (EA; 17a ↔ 17b). In the Bora diathetic relation D_2 features additional marking compared to D_1 (i.e. *-ts^hó* in 16b) and thus qualifies as a causative voice relation. By contrast, in the Kammu diathetic relation D_1 features additional marking compared to D_2 (i.e. *hm-* in 17a) and thus qualifies as an anticausative voice relation. According to the causative definition, D_2 in the Bora causative voice relation represents a causative voice; and according to the anticausative definition, D_1 in the Kammu anticausative voice relation represents an anticausative voice. Similar criteria are found in many existing definitions of the causative and anticausative voices. For example, Kulikov (2001: 888) argues that “causatives sensu stricto” are “formally more complex than their non-causative counterparts” while anticausatives are “morphologically more complex than the causative”. Furthermore, observe that so-called “autocausatives” (e.g. ‘to stretch [oneself]’ or ‘to sit [oneself] down’) comply with the anticausative definition and are therefore treated accordingly. Despite the apparent use of the pronoun ‘oneself’ in the English meanings given here, autocausative actions are hardly reflexive in the sense that a semantic participants actually acts upon itself. On the contrary, the actions themselves are largely spontaneous like in the case of anticausatives. Thus, the animacy-related distinction sometimes maintained between anticausatives and autocausatives in the literature is not adopted here and both are considered anticausative.

(16) Bora (Thiesen & Weber 2012: 144)

- a. *ó tsɛːné-ʔi*
1SG run-CLF
‘I ran’.

- b. ò:ʔí:-pʲé ò-kʰé tsé:né-tsʰó-ʔí
 dog-SG.M 1SG-OBJ.ANIM run-CAUS-CLF
 ‘The dog made me run’.

(17) Kammu (Svantesson 1983: 111 via Zúñiga & Kittilä 2019: 49)

- a. tóʔ hm-pír
 table ANTC-shake
 ‘The table is shaking’.
- b. ʔòʔ pír tóʔ
 1SG shake table
 ‘I shake the table’.

While the diathesis characterised by additional verbal marking can be readily identified in most languages (like in Bora and Kammu), this can prove difficult in some languages. Consider, for instance, the four diathetic relations in the Tibeto-Burman language Northern Pumi (EA) in Table 2.2. It is clear that the verbal marking in D_1 (on the left side of the bidirectional arrows) in each of these diathetic relations is characterised by an initial non-aspirated voiced consonant (i.e. *b-*, *dz-*, *d-*, and *ɖ-*), while the verbal marking in D_2 (on the right side of the bidirectional arrows) is characterised by an initial aspirated voiceless counterpart (i.e. *pʰ-*, *tsʰ-*, *tʰ-*, and *ɖʰ-*). Nevertheless, it can hardly be argued that the verb in either diathesis has additional marking. One solution would be to simply exclude such diathetic relations. This would be in line with Kulikov’s (2010) definitions discussed above, but would also lead to the inevitable loss of linguistic diversity. Another solution would be to treat D_1 and D_2 indiscriminately as anticausative and causative, respectively. However, this would result in the Bora diathesis in (16a) being labelled anticausative and the Kammu diathesis in (17b) being labelled causative. While this is a cross-linguistically applicable solution, it contrasts with the general understanding of anticausativity and causativity in the literature.

Table 2.2: Diathetic relations in Northern Pumi (Daudey 2014: 295)

| | | | | |
|-------------|--------------------|---|--------------|---------------------|
| <i>bí</i> | ‘to fall over’ | ↔ | <i>pʰí</i> | ‘to push sth. over’ |
| <i>dzǎŋ</i> | ‘to be clogged up’ | ↔ | <i>tsʰǎŋ</i> | ‘to clog sth. up’ |
| <i>dǒŋ</i> | ‘to be dammed up’ | ↔ | <i>tʰǒŋ</i> | ‘to dam sth. up’ |
| <i>ɖwě</i> | ‘to break’ | ↔ | <i>ɖʰwě</i> | ‘to break sth.’ |

A third solution – adopted here – is to treat diathetic relations like the ones illustrated for Northern Pumi in Table 2.2 as equipollent causative-anticausative (Haspelmath 1993: 91f.; called “double derivation” by Nichols et al. 2004: 153). The following definition establishes an equipollent causative-anticausative voice relation. This definition is identical to the causative and anticausative definitions in terms of the first and second criteria but differs in its third criterion. In specifically this kind of voice relation, D_1 can invariably be said to be anticausative and D_2 can invariably be said to be causative. Accordingly, in the Northern Pumi diathetic relations in Table 2.2 the diatheses on the left side of the bidirectional arrow (i.e. D_1) are considered anticausative, while the diatheses on the right side of the arrow (i.e. D_2) are considered causative. If not otherwise specified, in this book the causative and anticausative voices in an equipollent causative-anticausative voice relation are treated on pair with other causatives and anticausatives. Thus, henceforth a CAUSATIVE VOICE serves as a shorthand for a causative voice in either a causative voice relation or in an equipollent causative-anticausative voice relation, while an ANTICAUSATIVE VOICE serves as a shorthand for an anticausative voice in either an anticausative voice relation or in an equipollent causative-anticausative voice relation.

Definition of equipollent causative-anticausative

An EQUIPOLLENT CAUSATIVE-ANTICAUSATIVE VOICE RELATION denotes a diathetic relation involving two diatheses, D_1 and D_2 , if a comparison between these diatheses fulfills the criteria below; while an ANTICAUSATIVE VOICE denotes D_1 and a CAUSATIVE VOICE denotes D_2 in the voice relation.

- i) D_2 features one semantic participant more than D_1 .
- ii) The additional semantic participant in D_2 is a causer.
- iii) The verbs in D_1 and D_2 differ in terms of verbal marking but neither verb in D_1 and D_2 has additional verbal marking compared to the other.

The causative and anticausative definitions presented in this section all entail a difference in verbal marking between the verbs in D_1 and D_2 . This ensures that “uncoded alternations” (e.g. Zúñiga & Kittilä 2019: 181ff.) like the following diathetic relation in the Berber language Ghomara (AF; 18a ↔ 18b) are excluded from the discussions in this book.

(18) Ghomara (Mourigh 2015: 317)

- a. *lkas i-ɾez*
 glass 3SG.M-break.PFV
 ‘The glass is broken’.
- b. *argaz=ahen i-ɾez lkas*
 man=SG.DEM 3SG.M-break.PFV glass
 ‘The man broke the glass’.

Furthermore, observe that the causative and anticausative definitions do not specify the morphosyntactic marking of semantic participants, unlike many existing definitions of the voices in the literature. For instance, it is often specified that the causer in the causative voice is or becomes or behaves like a subject or A (Dixon 2000: 31; Dixon & Aikhenvald 2000: 13; Haspelmath & Müller-Bardey 2004: 1137; Kulikov 2010: 386; Malchukov 2015: 122; 2016: 412). Likewise, it is commonly stated that the single semantic participant in anticausative voice is or behaves like a subject or s (Kazenin 1994: 144; Dixon & Aikhenvald 2000: 7; Haspelmath & Müller-Bardey 2004: 1132). However, as already noted in the previous two sections, notions and specifications of this sort are avoided in the definitions presented in this book. Moreover, there seems to be considerable cross-linguistic variation with regard to the marking of non-causing semantic participants in causatives (see, e.g., Dixon 2000: 45ff.), and it can therefore be difficult to justify that one kind of marking is included in its definition but other kinds excluded (this issue is less pronounced for anticausatives). Consider, for example, the Bora (SA) causative voice relation already discussed (16a↔16a) in which causees are generally marked like a direct object from a language-specific perspective. By contrast, in the language isolate Nivkh (EA) causees can optionally be marked by the suffix *-ax* specifically dedicated to this very function (19a↔19b).

(19) Nivkh (Nedjalkov et al. 1995: 78)

- a. *ōla vi-d’*
 child go-FIN
 ‘The child went’.
- b. *ətək ōla(-ax) vi-gu-d’*
 father child(-CAUSEE) go-CAUS-FIN
 ‘Father made/let the child go’.

Finally, it is worth noting that causatives differ considerably both within and across languages regarding the more precise semantic nature of the causation

they denote. Indeed, some languages feature several different types of causative marking, and Dixon (2000: 62) lists nine semantic parameters according to which two or more causatives may be differentiated: i) state/action, ii) transitivity, iii) control, iv) volition, v) affectedness vi) directness, vii) intention, viii) naturalness, and ix) involvement. The sixth parameter is particularly prominent in the literature, and a fundamental distinction is sometimes simply made between “direct causatives” and “indirect causatives” (e.g. Comrie 1989: 171; Kulikov 2001: 892; Shibatani & Pardeshi 2002; Zúñiga & Kittilä 2019: 34ff.). According to Haspelmath & Müller-Bardey (2004: 1138), in direct causatives “the causer actively participates in the action, acting on the causee (in order to get the content of the base verb realized), which will imply some sort of coercion in case the causee is animate”, whereas in indirect causatives “the causer is conceived of as a mere instigator or distant cause of the realization of the verb content”. Unfortunately, many of the descriptive grammars covering the languages included in the language sample do not explore differences in causation in detail. Consequently, it has not been possible to obtain enough relevant and cross-linguistically comparable data to draw any conclusions about cross-linguistic differences regarding causation in relation to voice syncretism, and the differences are therefore largely ignored in this book and all causatives are treated on par with each other.

2.2.5 Applicatives

Like the reflexive, reciprocal, causative, and anticausative voice relations discussed in the previous two sections, the applicative voice relation is characterised by one diathesis (D_2) featuring one semantic participant more than another diathesis (D_1), as already visualised on page 21 in Figure 2.2b and reproduced here. This interdiathetic comparison serves as the foundation for the applicative definition presented in this section and complies with the general understanding of applicativity involving an additional semantic participant being added to a situation (e.g. Kazenin 1994: 144f. Dixon 2000: 31; Dixon & Aikhenvald 2000: 13f. Kulikov 2010: 389; Malchukov 2015: 90, 96; 2016: 413; Zúñiga & Kittilä 2019: 47).

$$D_1 (V, P_n) \leftrightarrow D_2 (V, P_{n+1})$$

The following applicative definition establishes both an applicative voice relation and an applicative voice. The definition is based on three criteria. The first criterion reflects the interdiathetic comparison shown above, while the second and third criteria serve to differentiate the applicative voice relation from the reflexive, reciprocal, causative, and anticausative voice relations, as already illustrated in §2.2.3.

Definition of applicative

An APPLICATIVE VOICE RELATION denotes a diathetic relation involving two diatheses, D_1 and D_2 , if a comparison between these diatheses fulfills the criteria below; while an APPLICATIVE VOICE denotes D_2 in the voice relation.

- i) D_2 features one semantic participant more than D_1 .
- ii) The additional semantic participant in D_2 is not a causer.
- iii) The verb in D_2 has additional marking compared to the verb in D_1 .

An applicative voice relation has already been illustrated in the Muskogean language Creek (NA) on page 35 (12a↔12b) but for the sake of illustration in this section, another applicative voice relation here follows in the South Guaicuruan language Pilagá (SA; 20a↔20b). In this voice relation D_2 features an additional semantic participant which is not a causer (i.e. ‘the woman’ in 20b; first and second criteria) in addition to additional marking (i.e. *-lege*) not found in D_1 (third criterion). In accordance with the applicative definition, D_2 represents an applicative voice. The third criterion ensures that various periphrastic constructions do not qualify as applicative voice. Consider, for instance, the following examples from the Central Pama-Nyungan language Diyari (AU; 21a–21c). The diatheses in (21b) and (21c) both feature one semantic participant more than the diathesis in (21a), but only the diatheses in (21a) and (21c) differ in terms of diathetic marking (i.e. *-lka*) and thereby qualify as an applicative voice relation. If no difference in verbal marking were required, the diathetic relation (21a↔21b) would also qualify as applicative voice – a result that does not reflect the general understanding of applicativity in the literature. For very similar examples in the related Northern Pama-Nyungan language Yidiny, see Dixon (1977: 109).

(20) Pilagá (Vidal 2001: 318)

- a. *d-asot*
3SG-dance
‘S/he dances’.
- b. *d-asot-e-lege* *hada’ yawo*
3SG-dance-EP-APPL DEM.F woman
‘S/he dances for the woman’.

(21) Diyari (Austin 2005: 4f.; see also Kittilä 2002: 264)

- a. *karna wapa-yi*
man.ABS go-PRS
'The man is going'.
- b. *karna-li wapa-yi wilha-nhi*
man-ERG go-PRS woman-LOC
'The man is going with the woman'.
- c. *karna-li wilha wapa-lka-yi*
man-ERG woman.ABS go-APPL-PRS
'The man is going with the woman'.

Some applicative definitions in the literature explicitly declare that the additional semantic participant found in D_2 but not in D_1 in an applicative voice relation – henceforth called APPLICATIVE PARTICIPANT – reflects some kind of peripheral semantic participant in another diathesis. For instance, Dixon & Aikhenvald (2000: 13) claim that in the process of applicativisation, a “peripheral argument (which could be explicitly stated in the underlying intransitive) is taken into the core” (see also Dixon 2000: 32). In turn, Kulikov (2010: 389) notes that in applicatives “[t]he Direct Object may denote an entirely new participant in the situation, or it can be promoted from the periphery of the syntactic structure”. In a similar manner, Zúñiga & Kittilä (2019: 53) argue that in the applicative voice the “primary/direct object corresponds to an adjunct or non-core argument in the non-applicative voice, or to a participant that is introduced to the clause as primary/direct object”. In some languages this does indeed seem to be the case. For instance, in the Diyari examples discussed above, the semantic participants ‘the woman’ in (21b) and (21c) do appear to reflect each other in terms of meaning and function. However, the distinction between arguments and adjuncts (or core and periphery) is not applicable cross-linguistically (§2.1.1). Moreover, in some languages there is no alternative to the use of an applicative voice for certain semantic functions, in which case the applicative participant cannot be considered a reflection of any other semantic participant. For example, in the Bantu language (ci)Lubà (AF) the applicative voice must be employed when one wants to express a beneficiary or a recipient (de Kind & Bostoen 2012: 104f., 107, 116). Consider the following Lubà applicative voice relation (22a↔22b) in which the beneficiary ‘the mother’ in (22b) cannot be replaced by, say, a prepositional phrase with *bwà* ‘for’ (**bwà maamù*) nor be expressed in any other way. Creissels (2016: 85) observes that such “obligatory applicatives are particularly common among the languages of Sub-Saharan Africa”. By contrast, applicatives like the one discussed

for Diyari (21a↔21c) can be characterised as “optional” (Peterson 2007: 45ff.). The applicative definition presented in this section encompasses both optional and obligatory applicatives and does not make any distinction between them.

(22) Lubà (de Kind & Bostoen 2012: 103)

- a. *ba-àna bà-di ù-ambul-a mi-kàndà*
CLF2-child CLF2-be CLF1-carry-FIN CLF4-book
‘The children are carrying the books’.
- b. *ba-àna bà-di bà-ambul-il-a maamù mi-kàndà*
CLF2-child CLF2-be CLF2-carry-APPL-FIN mother CLF4-book
‘The children are carrying the books for the mother’.

Furthermore, note that the applicative definition presented in this section does not specify the morphosyntactic marking of semantic participants, unlike many existing definitions. For instance, it is commonly stated that an applicative participant is treated like *P*, or that *s* becomes *A*, or that a subject or *A* remains unchanged in the process of applicativisation (e.g. Dixon 2000: 31; Dixon & Aikhenvald 2000: 13f. Malchukov 2016: 412f. Zúñiga & Kittilä 2019: 53). Nevertheless, as already mentioned repeatedly in the previous sections, criteria like these are entirely avoided in the definitions employed in this book. Moreover, the morphosyntactic marking of the various roles differ greatly cross-linguistically, and it would be difficult to argue for one kind of marking being included in a definition but other kinds excluded. Zúñiga & Kittilä (2019: 63) highlight this diversity and remark that “[m]ost formal variation with applicatives stems from the fact that not all [applicative participants] acquire all properties associated with direct/primary objects” (see also Beck 2009). For the sake of illustration, consider the following diathetic relation in the Japonic language Irabu (EA; 23a↔23b). In this diathetic relation ‘rain’ falls in both *D*₁ (i.e. 23a) and *D*₂ (i.e. 23b) yet is not treated like a subject from a language-specific perspective in the latter diathesis. Instead, it is treated like an adjunct, while the semantic participant being detrimentally affected by the falling ‘I’ is treated like a subject and not like a direct object – as otherwise expected in many existing applicative definitions. Kishimoto et al. (2015: 776) provide very similar examples from the related language Japanese where the diathetic relation is generally called “adversative” or “adversative passive” (Zúñiga & Kittilä 2019: 76ff., 244). However, the diathetic relation in Irabu complies well with the applicative definition presented in this section and therefore qualifies as an applicative voice relation and is treated accordingly. Note that the verbal stem in both (23a) and (23b) is the same (§4.4.1).

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(23) Irabu (Shimoji 2008: 495)

- a. *ami=nu=du fii*
rain=NOM=FOC fall
'Rain falls'.
- b. *ba=a ami=n=du ff-ai-r*
1SG=TOP rain=DAT=FOC fall-APPL-NPST
'I am bothered by rain (that) falls'. (i.e. 'Rain falls to my detriment.')

Finally, it is worth observing that applicatives are functionally heterogeneous, as suggested by the various applicative examples presented in this section, and tend to be grouped according to the semantic nature of their applicative participant. In a typological study of applicatives in 100 languages, Peterson (2007: 202f.) observes that the most common semantic functions of the applicative participant are benefactive or malefactive, comitative, locative, and instrumental. The benefactive function has been illustrated in Pilagá (20b) and Lubà (22b), the malefactive function in Irabu (23b), and the comitative function in Diyari (21c). Another common function is variously characterised as dative, goal, or directive (see, e.g., Haspelmath & Müller-Bardey 2004: 1135; Peterson 2007: 187) and basically indicates that an action is somehow directed towards the applicative participant. Less common functions exist as well. For instance, the Skou language Barupu (PN) features a caritive/privative applicative in which an action is done without the applicative participant (Corris 2005: 258f.), and the Lower Sepik language Yimas (PN) possesses visual applicatives indicating that an action is done "while carefully watching another animate [applicative] participant" (Foley 1991: 315). While the cross-linguistic differences in the nature of the applicative participant are interesting in their own right, many of the descriptive grammars covering languages in the sample of this book do not explore the functional extents of applicatives in detail. It has therefore proven difficult to obtain sufficient relevant and cross-linguistically comparable data on the languages to allow for any conclusive statements to be made about the semantic function(s) of the applicative participant in relation to voice syncretism. Consequently, the differences are largely ignored in this book and applicatives are treated on par with each other regardless of the semantic function(s) of their applicative participant. This is also the reason why the applicative definition presented in this section on page 43 does not explicitly mention the applicative participant.

2.2.6 Overview

The fundamental distinction in interdiathetic comparison between the passive and antipassive voice relations on the one hand, and the reflexive, reciprocal, causative, anticausative, and applicative voice relations on the other hand (see Table 2.2 on 21) is illustrated once again in Table 2.3. The passive and antipassive voice relations are defined according to a comparison of two diatheses, both of which feature the same number of semantic participants ($P_n = P_n$), whereas the reflexive, reciprocal, causative, anticausative, and applicative voice relations are defined according to a comparison of two diatheses, one of which features one semantic participant more than the other ($P_n \neq P_{n+1}$). Table 2.3 also provides an overview of the various similarities and dissimilarities between the seven voice relations.

Table 2.3: Overview of voice definitions

| $D_1 (V, P_n) \leftrightarrow D_2 (V, P_n)$ | Absolute | | Non-absolute | |
|---|----------|------|--------------|------|
| | PASS | ANTP | PASS | ANTP |
| The agent is the least likely semantic participant to be expressed syntactically. | + | – | + | – |
| One semantic participant in D_2 cannot be expressed syntactically. | + | + | – | – |

| $D_1 (V, P_n) \leftrightarrow D_2 (V, P_{n+1})$ | REFL | RECP | CAUS | ANTC | APPL |
|---|------|------|------|------|------|
| Additional semantic participant in D_2 is a causer. | – | – | + | + | – |
| Verb in D_2 has additional marking compared to verb in D_1 . | – | – | + | – | + |
| Referents of one semantic participant in D_1 act upon each other. | – | + | | | |

The agent is the least likely semantic participant to be expressed syntactically in the passive voice relation, unlike in the antipassive voice relation. In turn, the absolute passive and antipassive voice relations feature one semantic participant in D_2 that cannot be expressed syntactically, unlike in the non-absolute passive and antipassive voice relations. Next, the reflexive, reciprocal, causative, anticausative, and applicative voice relations are distinguished from each other by the semantic role of the additional semantic participant in D_2 as well as verbal

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marking. The additional semantic participant is a causer in the causative and anticausative voice relations, unlike in the reflexive, reciprocal, and applicative voice relations. In turn, the verb in D_2 has additional marking compared to the verb in D_1 in the causative and applicative voice relations, unlike in the reflexive, reciprocal and anticausative voice relations. Finally, the reflexive and reciprocal voice relations are differentiated according to the behaviour of the referent(s) of a semantic participant in D_1 . The referents in question act upon each other in the reciprocal voice, unlike in the reflexive voice relation.

3 Defining voice syncretism

As explained in Chapter 1, VOICE SYNCRETISM refers to formal verbal marking shared by two or more of the seven voices of focus in this book (i.e. passive, antipassive, reflexive, reciprocal, anticausative, causative, applicative). By contrast, DEDICATED VOICE MARKING can be defined as formal verbal marking restricted to a single voice (cf. Zúñiga & Kittilä 2019: 233). Voice syncretism is the primary focus of this and subsequent chapters, while a discussion of dedicated voice marking is restricted mainly to §6.2. This chapter more precisely provides an overview of previous typological research on voice syncretism (§3.1) with special attention to Geniušienė's (1987) study of reflexive syncretism and Haspelmath's (1990) study of passive syncretism. The chapter also establishes three main types of voice syncretism based on resemblance in voice marking (§3.2). All patterns of voice syncretism discussed in subsequent chapters belong to one of these types.

3.1 Previous research

Two main approaches to the study of voice syncretism can be discerned in the literature. One approach has traditionally been closely associated with the infamous middle voice and entails a semantic core meaning (often characterised as a subject's affectedness; cf. Klaiman 1991) as point of reference in investigations of voices and their syncretism. The scope of this approach is accordingly restricted to voices complying with the semantic core meaning, typically considered to include passives, reflexives, reciprocals, and anticausatives (in addition to various other semantic functions not of primary interest to this book). By contrast, the other approach has formal marking as its point of reference and its semantic and functional scope is therefore largely unrestricted. Consequently, the latter approach is considerably more explicit in relation to voice syncretism (as formal marking is investigated with regard to semantics) than the former approach (in which semantics is examined with regard to formal marking).

3.1.1 Middle voice and semantics

The conceptualisation of a middle voice in linguistics can be traced to the grammatical traditions pertaining to Classical Greek (cf. *mesôtēs* or *mésē diathesis* ‘middle diathesis’) and Sanskrit (cf. *ātmanepada* ‘word for oneself’) though discussions of the phenomenon in a broader theoretical perspective are of more recent date (Zúñiga & Kittilä 2019: 168). Zúñiga & Kittilä cite early characterisations of the middle voice by Krüger (1846) and Kuryłowicz (1964), but note that Lyons (1968) “is generally credited with reinterpreting the original idea of an ‘action performed with special reference to the subject’ for English phenomena” (Zúñiga & Kittilä 2019: 172). In his classic *Introduction to Theoretical Linguistics*, Lyons describes the middle voice in the following manner:

As the term suggests, the *middle* was thought of as intermediate between the primary opposition of active and passive (signifying either an ‘action’, like the active, or a ‘state’, like the passive, according to the circumstances or the inherent meaning of the verb in question). [...] The implications of the middle (when it is in opposition with the active) are that the ‘action’ or ‘state’ affects the subject of the verb or his interests. (Lyons 1968: 373)

Barber (1975: 18f.) further elaborates that “the middle voice is expressing the fact that the subject is not only performing the action, as agent, but receiving some benefit from it as well”. For example, the Classical Greek middle voice can be used to express meanings such as autobenefactive (e.g. ‘to take sth. for self’), reflexive (e.g. ‘to wash self’), and reciprocal (e.g. ‘to crown e.o.’), inter alia. At the time of writing, Barber (1975: 17) argued that the “linguistic literature on the middle voice is almost nonexistent”, yet it can be noted that the label “middle voice” has been applied in descriptive studies of non-Indo-European languages since at least the 1950s (e.g. Arnott 1956 on the Atlantic language Fula, Chafe 1960 on the Northern Iroquoian language Seneca, and Wallis 1964 on the Oto-Manguan language Mezquital Otomí). The first comprehensive typological investigations of the phenomenon are provided by Klaiman (1982; 1991) and Kemmer (1993; 1994) who both argue that affectedness of the subject or the self lies at the semantic core of the middle voice. In the words of Klaiman (1991: 104f.), “the middle implicates the logical subject’s affectedness” as well as “detransitivisation (valence reduction) and reflexivity”. Klaiman and Kemmer thus reiterate Lyons’ characterisation of the middle voice quoted above:

[...] there is a coherent, although complex, linguistic category subsuming many of the phenomena discussed under the name of middle [...] and this

category receives grammatical instantiation in many languages. The category of the middle, although without fixed and precise boundaries, nevertheless has a clearly discernible semantic core that fits the traditional characterization of the middle voice [by] Lyons. (Kemmer 1993: 3)

Evidently, the middle voice has traditionally been regarded as a category loosely defined primarily according to a set of presumably related semantic criteria (e.g. Kemmer 1993: 238) and secondarily on similarities in marking (e.g. Kemmer 1993: 15ff.). In turn, this category can seemingly manifest itself in different ways in different languages, and neither Klaiman nor Kemmer claims that the functional scope of the middle voice is necessarily the same in different languages. In fact, as argued by Shibatani (2004: 1149), “[t]he middle (or medial) voice is considered to be the most heterogeneous voice category”. For instance, although the middle voice in Classical Greek can be used to express reflexivity, reciprocity, passivity, and anticausativity, the same functions “are expressed by distinct constructions such as the spontaneous, the reflexive, the reciprocal, and the passive construction in English and other languages” (Shibatani 2004: 1157). While studies within the tradition described here rarely focus explicitly on voice syncretism, they provide valuable implicit insights into such syncretism due to their extensive focus on semantic similarities between the passive, reflexive, reciprocal, and anticausative voices. Nevertheless, being semantically and syntactically heterogeneous and based largely on vaguely defined fuzzy boundaries, a “middle voice” can hardly be defined as a comparative concept, and the term is avoided entirely in subsequent chapters. However, due to the prevalent perception of passives, reflexives, reciprocals, and anticausatives being associated with one other in the literature, voice syncretism involving at least two of the four voices will henceforth be referred to as MIDDLE SYNCRETISM. As shown in the following chapters, this kind of syncretism is cross-linguistically prevalent, so the grouping of these voices is not unfounded. As discussed in the next section, a similar solution has previously been suggested by Shibatani (2004) in terms of the middle voice being a “family of constructions”, and by Kulikov (2010: 394f.; 2013: 265ff.) and Zúñiga & Kittilä (2019: 175ff.) in terms of a “middle cluster”.

A few prominent investigations dealing implicitly or explicitly with middle syncretism predate Klaiman’s (1991) and Kemmer’s (1993) observations on the phenomenon. For instance, in an early pioneering study, Nedjalkov & Sil’nickij (1969: 40ff.) investigate and exemplify various patterns of voice syncretism involving anticausatives, as further described in the next section. Voice syncretism involving passives has been discussed at length by Siewierska (1984), Shibatani (1985) and Haspelmath (1990); while voice syncretism involving reflexives has

been examined most notably by [Geniušienė \(1987\)](#). It is, however, worth noting that voice syncretism is not of primary interest to any of these studies. Nevertheless, the latter two studies are particularly noteworthy for their systematic sample-based approach which makes it possible to extract cross-linguistic data on voice syncretism. In fact, it seems that these two studies still stand as the most comprehensive surveys of voice syncretism despite being published more than three decades ago and not explicitly dedicated to the matter. In this respect, the studies in question differ from other inquiries into voice syncretism which have generally provided more sporadic observations on the phenomenon. For these reasons, [Geniušienė's \(1987\)](#) and [Haspelmath's \(1990\)](#) studies are discussed in more detail in §3.1.3 and §3.1.4, respectively.

3.1.2 Families, clusters, and voice ambivalence

As mentioned in the previous section, [Shibatani \(2004: 1147f.\)](#) suggests that the middle voice and other voices can be perceived as “families of constructions” and argues that “it is the morphological unity [...] that overtly indicates the nature of voice as something comprising of a family of constructions”. Thus, [Shibatani](#) defines unity in terms of similarities in formal marking, not similarities in semantics. [Kulikov \(2010: 394f.; 2013: 265ff.\)](#) and [Zúñiga & Kittilä \(2019: 175ff.\)](#) adopt a similar view but use the term “cluster” instead of “family”. In addition to a “middle cluster” (or “detransitivizing cluster”, [Zúñiga & Kittilä 2019: 237](#)), both [Kulikov \(2010: 395\)](#) and [Zúñiga & Kittilä \(2019: 234ff.\)](#) also recognise a “transitive” or “transitivising cluster” encompassing the causative and applicative voices, in other words causative-applicative syncretism. Evidently, the scope of this approach is not restricted by any specific semantic core meaning, and the approach may thus be applied to the study of the seven voices of interest in this book. This kind of systematic approach in which formal marking is considered with regard to its semantics (rather than semantics being considered with regard to its formal marking) can be traced to the Leningrad-St. Petersburg Typology Group established in the early 1960s at the Institute of Linguistics of the USSR Academy of Sciences. The fundamental ideology of the group has been described in the following manner:

[...] meanings of comparable grammatical categories in different languages coincide to a greater or lesser degree. Partial coincidence is characteristic not only of meanings whose relatedness is obvious [...] but also of those meanings that at first glance may appear totally unrelated and occur within the semantic limits of the grammatical form by accident, as is the case with

the causative and passive meanings in some languages. [...] We have reason to assume that at least for some comparable grammatical categories in different languages there exists a certain limit (or limits) of possible syncretism. [...] According to the range of various meanings expressed by comparable forms in them, individual languages differ from one another and can be subject to classification. (Nedjalkov 1964: 301f.; cited via Nedjalkov 1988: xii and Comrie & Polinsky 1993: vii)

Causatives in particular were an early subject of interest to the Leningrad-St. Petersburg Typology Group which “first achieved international eminence” (Comrie & Polinsky 1993: vii) following the publication of a “typology of causative constructions” (*Типология каузативных конструкций*) edited by Xolodovič (1969). In the publication’s chapter on morphological and lexical causatives, Nedjalkov & Sil’nickij (1969: 35ff., 40ff.) explicitly discuss syncretism of causatives and anticausatives (for an English translation of the chapter, see Nedyalkov & Silnitsky 1973). Nedjalkov & Sil’nickij mention causative-applicative, causative-reciprocal, causative-passive, passive-anticausative, reflexive-anticausative, and reciprocal-anticausative syncretism. More recent prominent studies associated within the same tradition have been published by Kulikov & Nedjalkov (1992) who provide a “questionnaire for causativisation” (*Questionnaire zur Kausativierung*) in which the same patterns of voice syncretism observed by Nedjalkov & Sil’nickij (1969) are reiterated; by Kazenin (1994; 2001a) and Kulikov (2001) who both examine various patterns of voice syncretism, albeit rather briefly; and by Nedjalkov (2007d) who has provided the most comprehensive account of syncretism focused on a specific voice to date, namely the reciprocal voice. As already mentioned in Chapter 1, Nedjalkov is also notable for explicitly acknowledging different degrees of resemblance in voice marking, a topic described in more detail in the following sections. Nevertheless, despite six decades of research on voice syncretism, Malchukov (2015; 2016; 2017) has argued that voice syncretism may still be more widespread than generally acknowledged and that its typology has not yet been fully explored:

One aspect of this topic that has not been sufficiently acknowledged so far is the pervasiveness of “ambivalence” of voice categories, the fact that a certain voice marker (or, more broadly, a valency-changing marker) performs different functions when applied to different valency classes of verbs (in the first place to intransitives and transitives). Admittedly, there have been occasional observations made about such polysemies in the literature on individual valency categories [...], but with a few exceptions [...] no exten-

sive typological studies have been undertaken so a general picture is still lacking”. (Malchukov 2016: 259; see also 2015: 103 and 2017: 3)

The terms “ambivalent voice” and “voice ambivalence” coined by Malchukov denote voice syncretism. Malchukov (2015: 123; 2016: 414; 2017: 24) notably goes on to design a semantic map of “voice categories capturing selective similarities between individual categories” which can be used to explain various patterns of voice syncretism involving the causative, applicative, passive, and antipassive voices. This map is reproduced and discussed in §7.7.

3.1.3 Geniušienė (1987) on reflexive syncretism

Geniušienė’s (1987) widely cited typology of reflexives is notable for its systematic sample-based approach which makes it possible to extract cross-linguistic data on voice syncretism, although the syncretism in question is not of primary interest to her study. Geniušienė’s typology is based on a cross-linguistic survey of 50 languages: 25 Indo-European languages and 25 non-Indo-European languages which belong to seven and fifteen WALS genera, respectively. Geniušienė (1987: 57, 220ff.) investigates these languages with regard to fifteen “derived R[eflexive] V[erb] diatheses” (which she also calls “recessive diatheses”), all of which she gives a unique identifier in the form of a delta followed by a subscript numeral (Δ_1). Of relevance to this book are the following seven “derived RV diatheses” (Geniušienė 1987: 230): “semantic reflexives” (Δ_1), “absolute RVs” (Δ_2), “reciprocal RVs” (Δ_4), “decausatives RVs” (Δ_7), and “reflexive passives” (Δ_9) in addition to “autocausative RVs” (Δ_3) and “converse RVs” (Δ_{11}). The first five diatheses roughly correspond to the reflexive, antipassive, reciprocal, anticausative, and passive voices in this book, respectively. “Autocausative RVs” are also treated as anticausatives here, because this phenomenon appears to involve two voices which differ primarily in terms of a causer (§2.2.4), e.g. Estonian (EA) *lask-* ‘to put sth. down’ \leftrightarrow *lask-u-* ‘to go down’ (Geniušienė 1987: 316). The same is true for “converse RVs”, e.g. Swedish (EA) *vulkanen utspyr asken* ‘the volcano erupts the ashes’ and *asken utspyr-s ut vulkanen* ‘the ashes erupt from the volcano’ (Geniušienė 1987: 273; the English translations are slightly modified here). Geniušienė (1987: 228) argues that the agent in the former clause in paired examples of this kind “changes into some other semantic role” in the latter clause, and the voice relation can hardly be considered passive. On the contrary, the former clause differs from the latter in having a causer, and the voice relation is thus treated as anticausative (‘to erupt sth.’ \leftrightarrow ‘to erupt’).

Table 3.1: *Geniušienė*'s (1987) survey of reflexive syncretism

| | Marking | REFL Δ_1 | RECP Δ_4 | ANTC Δ_3 Δ_7 Δ_{11} | | | PASS Δ_9 | ANTP Δ_2 |
|------------|--|--------------------|--------------------|---|-----|-----|--------------------|--------------------|
| Swedish | -s | | + | + | + | + | + | + |
| Russian | - <i>sja</i> | + | + | + | + | + | + | + |
| Lithuanian | -s, - <i>si</i> - | + | + | + | + | + | | + |
| Armenian | -v | + | + | + | + | + | + | |
| Greek | * | (+) | + | + | + | (+) | + | |
| Latin | * | (+) | + | + | + | | + | |
| Sanskrit | * | (-) | + | + | + | | + | |
| Udmurt | - <i>śk</i> | + | + | + | + | + | + | + |
| Hungarian | - <i>d</i> , - <i>z</i> | + | + | + | + | + | + | + |
| Veps | -s | + | + | + | + | (+) | | + |
| Mordvin | -v | (+) | | + | + | + | + | |
| Selkup | -(<i>c</i>) <i>y</i> , - <i>ī</i> _ε | + | | + | + | (+) | | |
| Amharic | <i>tə</i> - | + | + | + | + | | + | |
| Shoshoni | <i>na</i> -, <i>nii</i> - | + | + | + | + | | + | (+) |
| Georgian | <i>i</i> - | + | (-) | + | + | + | + | + |
| Uzbek | - <i>n</i> , - <i>l</i> | + | | + | + | + | + | (+) |
| Fula | - <i>ii</i> , - <i>ike</i> | + | | + | + | | | + |
| Nivkh | <i>p</i> ^ε - | + | | + | (+) | (-) | | |
| Khmer | <i>rə</i> - | (-) | (+) | + | + | | | |
| Aymara | - <i>si</i> | + | + | | | | | |

The findings of *Geniušienė*'s (1987: 244, 258, 308, 320) survey of the seven “derived RV diatheses” are summarised in Table 3.1. The table only includes a subset of twenty languages, each representing a unique genus and one or more voices featuring formal verbal marking. *Geniušienė* also discusses languages with various periphrastic constructions (e.g. English and the Oto-Manguean language Yatzachi Zapotec) which do not comply with any of the voice definitions in this book, and so these languages are excluded from the table. Change in verbal conjugation paradigm according to agreement in the Chaplin dialect of Siberian Eskimo is not considered voice marking either (§2.2.1). A hyphen within parentheses (-) in Table 3.1 denotes a “possible absence”, a plus sign within parentheses (+) denotes “a highly restricted class” (*Geniušienė* 1987: 353), and an asterisk

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(*) denotes paradigmatic voice marking (i.e. fusion of voice marking and agreement). “Inconclusive information” marked by a question mark in the original source is not included in the table. The first group of languages in the table represents Indo-European genera, the second group of languages Uralic genera, and the third group various unrelated genera. Note that *Geniušienė* treats the Finno-Ugric languages Erzya and Moksha collectively as “Mordvin”.

Observe that *Geniušienė* (1987) includes more than one voice marker for some languages and does not make a clear distinction between them and their functions. For instance, *Geniušienė* (1987: 305) remarks that “suffixes containing *-d-* or *-z-* are used in Hungarian”, probably referring to suffixes like *-od*, *-oz*, *-kod*, and *-koz* (each with several allomorphs), yet she does not differentiate them nor their specific uses. Thus, Table 3.1 only gives an approximate idea of the extent of voice syncretism in the various languages, and no attempt has here been made to alter *Geniušienė*’s analysis of the languages. However, it can be mentioned that her analysis of languages also found in the language sample of this book (i.e. the Indo-European language Eastern Armenian, the Permic language Udmurt, and the language isolate Nivkh; all EA) does reflect the analysis of this book. By contrast, no passive-antipassive-reflexive-reciprocal-anticausative syncretism is recognised for the Ugric language Hungarian (EA) nor for the Uto-Aztecan language Shoshoni (NA). In the former language the suffixes *-kod* and *-koz* are associated with antipassivity, reflexivity, and reciprocity; whereas the suffixes *-od* and *-oz* are associated with anticausativity and resultative state, but not passivity (for an overview of these and related markers as well as their various functions, see *Károly 1982*). *Geniušienė* (1987: 306) only addresses Shoshoni very briefly, simply mentioning the prefixes *na-* and *nī-*. Cognates of these prefixes are widely associated with passivity, reflexivity, reciprocity, and/or anticausativity among the Numic languages (see, e.g., *Crum & Dayley 1993*: 118ff. on Western Shoshoni; *Charney 1993*: 125ff. on Comanche; *Dayley 1989*: 104ff. on Panamint; *Sapir 1930*: 108ff. on Southern Paiute; *Thornes 2003*: 373ff. on Northern Paiute), but not antipassivity. In Numic languages antipassivity is more commonly associated with cognates of the prefix *tī-* (see, e.g., *Crum & Dayley 1993*: 122f. on Western Shoshoni; *Charney 1993*: 128f. on Oklahoma Comanche; *Dayley 1989*: 111f. on Panamint; *Thornes 2003*: 379ff. on Northern Paiute).

Table 3.2 provides a statistical overview of the simplex and complex patterns of voice syncretism that can be extracted from *Geniušienė*’s (1987) findings summarised in Table 3.1 according to frequency, if “possible absences” (–) of voices are ignored and the voices “of a highly restricted class” (+) are treated on par with other voices. The left-hand side of Table 3.2 shows patterns of minimal sim-

plex voice syncretism, whereas the right-hand side of the table shows patterns of maximal simplex and complex voice syncretism. Thus, for example, the Ayмара reflexive-reciprocal marker *-si* is counted only under “REFL-RECP” on the left-hand side; while the Mordvin passive-reflexive-anticausative marker *-v* is counted under “PASS-REFL-ANTC” on the right-hand side and under “PASS-REFL”, “PASS-ANTC” and “REFL-ANTC” on the left-hand side. The distinction between minimal and maximal voice syncretism has been explained in Chapter 1.

Table 3.2: Voice syncretism in *Geniušienė’s* (1987) survey ($n = 50$)

| Minimal simplex syncretism | | | Maximal simplex/complex syncretism | | |
|----------------------------|----|--------|------------------------------------|---|-------|
| REFL-ANTC | 16 | (32 %) | PASS-ANTP-REFL-RECP-ANTC | 4 | (8 %) |
| PASS-ANTC | 13 | (26 %) | PASS-REFL-RECP-ANTC | 4 | (8 %) |
| RECP-ANTC | 13 | (26 %) | PASS-ANTP-REFL-ANTC | 2 | (4 %) |
| REFL-RECP | 11 | (22 %) | ANTP-REFL-RECP-ANTC | 2 | (4 %) |
| PASS-REFL | 11 | (22 %) | REFL-ANTC | 2 | (4 %) |
| PASS-RECP | 10 | (20 %) | REFL-RECP | 1 | (2 %) |
| ANTP-ANTC | 10 | (20 %) | RECP-ANTC | 1 | (2 %) |
| ANTP-REFL | 9 | (18 %) | PASS-REFL-ANTC | 1 | (2 %) |
| ANTP-RECP | 7 | (14 %) | PASS-RECP-ANTC | 1 | (2 %) |
| PASS-ANTP | 7 | (14 %) | ANTP-REFL-ANTC | 1 | (2 %) |
| | | | PASS-ANTP-RECP-ANTC | 1 | (2 %) |

Table 3.2 shows that ten patterns of minimal simplex voice syncretism are attested in *Geniušienė’s* (1987) study, and middle syncretism (§3.1.1) is generally more prevalent cross-linguistically than syncretism involving the antipassive voice. This finding is confirmed by this book as well, although the specific frequencies only bear superficial resemblance (compare Table 6.13 on page 159). Most notably, the frequencies attested in *Geniušienė’s* study are greatly inflated compared to those attested in this book. Such discrepancies can be explained by the smaller size of its language sample and its inclusion of several related languages (albeit of different genera) with rather similar patterns of voice syncretism, notably Indo-European and Uralic languages (*Geniušienė* 1987: 128f.). In terms of maximal voice syncretism, all complex patterns appear to be at least as common as simplex patterns in *Geniušienė’s* study. Indeed, only four of the twenty languages listed in Table 3.2 feature maximal simplex voice syncretism, while the remaining languages feature maximal complex voice syncretism. By contrast, in this book patterns of maximal simplex syncretism have been found

to be considerably more prevalent cross-linguistically than suggested by the findings extracted from *Geniušienė*'s study.

3.1.4 Haspelmath (1990) on passive syncretism

In his study on “the grammaticization of passive morphology”, *Haspelmath* (1990: 36) provides a survey of “[o]ther uses of passive morphemes” in a sample of 80 languages belonging to 72 different WALS genera. Seven of the Austronesian languages in his sample belong to the Oceanic genus, and so does one of the “Indo-Pacific” languages, Magori (PN). According to *Haspelmath* (1990: 28), 31 of the 80 languages “were found to have a passive” and these languages constitute the focus of his discussion. In turn, fourteen of the 31 languages feature a passive voice characterised by some kind of formal verbal marking, and are thereby of interest to this book. The Bantu language Mwera (AF) only features a potential passive (“the subject is capable of undergoing an action”, *Haspelmath* 1990: 33) and is therefore ignored here. *Haspelmath*'s survey of passive syncretism covers reflexive, reciprocal, anticausative, passive, and antipassive (“deobjective”) functions – like *Geniušienė*'s (1987) survey of reflexive syncretism described in the previous section – in addition to various other functions not directly relevant to the discussion here (e.g. resultativity, habituality, collectivity). The findings of *Haspelmath*'s (1990) survey are presented in Table 3.3, in which each language represents a unique genus. An asterisk (*) indicates paradigmatic voice marking (i.e. fusion of voice marking and agreement), while a plus sign within parentheses (+) indicates that “the passive morpheme does not express this use alone but in conjunction with some other morpheme” (*Haspelmath* 1990: 36), in other words type 2 syncretism (§3.2.3). As also remarked in relation to *Geniušienė*'s (1987) survey in the previous section, no attempt has here been made to modify *Haspelmath*'s (1990) analysis of the languages in Table 3.3, and the contents represent findings according to his own specific definitions of the various voices. Differences between their respective analyses are therefore also ignored. For example, *Geniušienė* recognises a reciprocal function for Latin “-r forms” whereas *Haspelmath* does not (compare Table 3.1 on page 55).

The approach of *Haspelmath*'s (1990) survey differs from that of *Geniušienė*'s (1987) survey, and analogous tables to those presented for the latter study in the previous section can therefore not be produced for the former. More specifically, *Haspelmath* (1990) only includes information about reflexive, reciprocal, anticausative, and antipassive voices *if* they share voice marking with the passive voice in any given language. Consequently, although *Haspelmath*'s survey is based on a sample of 80 languages, he only investigates patterns of voice syn-

Table 3.3: *Haspelmath's* (1990) survey of passive syncretism

| | Marking | REFL | RECP | ANTC | PASS | ANTP |
|----------|-----------------|------|------|------|------|------|
| Udmurt | - <i>śk</i> | + | + | + | + | + |
| Greek | * | + | + | + | + | |
| 'O'dham | * | + | + | + | + | |
| Tigre | <i>tə-</i> | + | (+) | + | + | |
| Motu | <i>he-</i> | (+) | (+) | + | + | |
| Kanuri | <i>tə-, -tə</i> | + | | + | + | |
| Latin | * | + | | + | + | |
| Slave | <i>d-</i> | + | | | + | |
| Rukai | <i>ki-</i> | + | | | + | |
| Worrorra | <i>-ieŋu</i> | + | + | | + | |
| Tuareg | <i>mə-</i> | | + | | + | |
| Danish | <i>-s</i> | | | + | + | |
| Uyghur | <i>-il</i> | | | + | + | |
| Nimboran | <i>-da</i> | | | + | + | |

cretism involving the passive voice which he attests in 31 languages. Other patterns of syncretism lie outside the scope of his investigation. Thus, the frequencies for patterns of syncretism extracted from *Haspelmath's* findings must be calculated according to different sample sizes: 80 languages for frequencies of patterns involving the passive voice, and 31 languages for frequencies of all other patterns. The patterns alongside their frequencies are listed in Table 3.4 and Table 3.5. By analogy with the summary of *Geniušienė's* (1987) findings related to voice syncretism (see Table 3.2 on page 57), the left-hand side of Table 3.4 shows patterns of minimal simplex voice syncretism, while the right-hand side of the table shows patterns of maximal simplex and complex voice syncretism. By contrast, 3.5 covers only minimal simplex voice syncretism, as *Haspelmath's* (1990) findings do not include any patterns of complex voice syncretism that do not involve the passive voice.

Unlike the frequencies attested in *Geniušienė's* study (1987) (see Table 3.2 on page 57), the frequencies attested in *Haspelmath's* (1990) presented in Table 3.4 and Table 3.5 are only slightly higher than those attested in this book. The distribution of voice syncretism attested in both *Geniušienė's* and *Haspelmath's* studies can be compared to that attested in the survey of this book in Chapter 6 (see Table 6.14 on page 161, Table 6.16 on page 164, and Table 6.17 on page 165).

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Table 3.4: Voice syncretism in Haspelmath’s (1990) survey ($n = 80$)

| Minimal simplex syncretism | | | Maximal simplex/complex syncretism | | |
|----------------------------|----|----------|------------------------------------|---|---------|
| PASS-ANTC | 10 | (12.5 %) | PASS-REFL-RECP-ANTC | 4 | (5.0 %) |
| PASS-REFL | 9 | (11.3 %) | PASS-ANTC | 3 | (3.8 %) |
| PASS-RECP | 5 | (6.3 %) | PASS-REFL | 2 | (2.5 %) |
| PASS-ANTP | 1 | (1.3 %) | PASS-REFL-ANTC | 2 | (2.5 %) |
| | | | PASS-REFL-RECP | 1 | (1.3 %) |
| | | | PASS-ANTP-REFL-RECP-ANTC | 1 | (1.3 %) |
| | | | PASS-RECP | 1 | (1.3 %) |

Table 3.5: Voice syncretism in Haspelmath’s (1990) survey ($n = 31$)

| Minimal simplex syncretism | | |
|----------------------------|---|----------|
| REFL-ANTC | 6 | (19.4 %) |
| REFL-RECP | 4 | (12.9 %) |
| RECP-ANTC | 3 | (9.7 %) |
| ANTP-REFL | 1 | (3.2 %) |
| ANTP-RECP | 1 | (3.2 %) |
| ANTP-ANTC | 1 | (3.2 %) |

The various patterns attested by Geniušienė and Haspelmath are discussed and illustrated in the following two chapters, in which evidence for several additional patterns of voice syncretism is also presented.

3.2 Resemblance in voice marking

Descriptions and investigations of voice syncretism in the literature commonly focus on a complete resemblance in the voice marking of two or more voices, yet in many languages voices sharing some marking may differ slightly in one way or another. To account for such variation in voice marking, three overarching types of voice syncretism are established in this book: type 1 syncretism based on a full resemblance in voice marking, type 2 syncretism based on a partial resemblance in voice marking, and type 3 syncretism based on a “reverse” resemblance in voice marking. Type 1 syncretism has two subtypes: type 1a syncretism

in which the voice marking in two voices bears full resemblance under *all* conditions, and type 1b syncretism in which the voice marking in two voices bears full resemblance under only *some* conditions. Type 1a syncretism will henceforth be labelled UNCONDITIONED, while type 1b syncretism will be labelled CONDITIONED. This difference is essentially dependent on allomorphy: in type 1a syncretism the allomorphy of voice marking in two voices is the same, unlike in type 1b syncretism in which the allomorphy of the voice marking in two voices overlaps only under certain conditions. Consequently, one may argue that the voice marking in type 1b syncretism is not exactly identical, and they are therefore differentiated in this book for the sake of transparency. These two types of syncretism are discussed further and illustrated in the next two sections (§3.2.1 and §3.2.2), followed by a more detailed description of the partial resemblance in voice marking in type 2 syncretism (§3.2.3). The “reverse” resemblance in type 3 syncretism deserves a preparatory explanation before being properly described in §3.2.4. This type of syncretism denotes a phenomenon whereby voice marking in a given language appears as a suffix in one voice but as a prefix in another voice. Thus, reverse resemblance does not refer to a reverse meaning, but to the reverse manner in which the voice marking appears on a verb in the respective voices. Such voice syncretism is rare, and it is therefore not surprising that discussions of the phenomenon are almost non-existent in the literature. However, it is explicitly recognised and described in this book for the sake of linguistic diversity.

3.2.1 Type 1a: full resemblance (unconditioned)

As noted in the previous section, type 1a syncretism entails full resemblance in the voice marking of two or more voices under *all* conditions and thus represents the kind of voice syncretism typically discussed in the literature. This type is also considerably more prevalent cross-linguistically than other types of syncretism, being attested in 91 of the 222 languages in the language sample (41 percent). By comparison, type 2 syncretism which follows type 1a syncretism in terms of frequency is attested in 25 of the languages (approximately 11 percent). Type 1a syncretism is here illustrated in the Burraran language Gurr-Goni (AU) by a reflexive voice relation (1a↔1b) and a reciprocal voice relation (1a↔1c). As seen in these voice relations, the suffix *-yi* in Gurr-Goni serves as voice marking in both the reflexive (1b) and reciprocal voices (1c).

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(1) Gurr-Goni (Green 1995: 214)

- a. *nguna-bu-ni*
2/3MIN.SBJ:1OBJ-hit-REAL
'S/he/you hit me'.
- b. *ngu-bu-yi-ni*
1MIN.SBJ-hit-REFL-REAL
'I hit myself'.
- c. *awuni-bu-yi-ni*
3AUG.NF.SBJ-hit-RECP-REAL
'They are hitting each other'.

Additional non-verbal marking accompanying voice marking does not affect the classification of the voice syncretism. For instance, in the West Bougainville language Rotokas (PN) the prefix *ora-* serves as voice marking in both the reflexive and reciprocal voices (2a↔2b), but in the latter voice the prefix can optionally be accompanied by the reciprocal adverb *oisiaropavira* (2c) unlike in the former. Nevertheless, the formal verbal voice marking clearly remains the same in both the reflexive and reciprocal voices under all conditions, and the Rotokas examples thus qualify as type 1a syncretism.

(2) Rotokas (Robinson 2011b: 193, 221)

- a. *uuvau-va* *Rara kopii-pie-e-va*
tuberculosis-SG.F NAME die-CAUS-3SG.F-PST
'Tuberculosis killed Rara'.
- b. *ora-kopii-pie-pa-a-i*
REFL/RECP-die-CAUS-CONT-3PL-PRS
'They are killing themselves'.
'They are killing each other'.
- c. *oisiaropavira ora-kopii-pie-pa-ai*
reciprocally RECP-die-CAUS-CONT-3PL-PRS
'They are killing each other'.

In rare cases, non-verbal marking is obligatory in type 1a syncretism, for example in the Ju-Kung language Western !Xun (AF). In this language the suffix *-ā* serves as voice marking in both the applicative and reciprocal voices, in the latter obligatorily accompanied by the reciprocal pronoun *kòè*. Likewise, in the

Timor-Alor-Pantar language Makalero (PN) the suffix *-ini* serves as voice marking in both the antipassive and causative voices, in the latter obligatorily accompanied by an auxiliary light verb. These patterns of syncretism are exemplified in Table 3.6. A subtype of type 1a syncretism which takes obligatory non-verbal marking into account could potentially be established for languages like Western !Xun and Makalero, but these languages are the only two languages in which such marking has been attested in the language sample, so the establishment of such a subtype has been deemed superfluous for the time being.

Table 3.6: Type 1a voice syncretism alongside non-verbal marking

| Western !Xun (Heine & König 2015: 88, 192, 210) | | | | | |
|--|--------------|-----------------|---|-------------------------|-------------------------|
| APPL | <i>cḥ</i> | ‘to drink sth.’ | ↔ | <i>cḥ-ā</i> | ‘to drink sth. at sth.’ |
| RECP | <i>hḥ</i> | ‘to see sb.’ | ↔ | <i>hḥ-ā kòè</i> | ‘to see e.o.’ |
| Makalero (Huber 2011: 150, 340f., 248, 299, 456) | | | | | |
| CAUS | <i>da'al</i> | ‘to break’ | ↔ | <i>mei=ni da'al-ini</i> | ‘to break sth.’ |
| CAUS | <i>dur</i> | ‘to wake up’ | ↔ | <i>mei=ni dur-ini</i> | ‘to wake sb. up’ |
| ANTP | <i>heru</i> | ‘to weave sth.’ | ↔ | <i>heru-ini</i> | ‘to weave [sth.]’ |
| ANTP | <i>isa</i> | ‘to bake sth.’ | ↔ | <i>isa-ini</i> | ‘to bake [sth.]’ |

Next, consider the patterns of voice syncretism in Table 3.7. The non-absolute passive and absolute antipassive voices in the Algonquian language Arapaho (NA) share the same voice marking, and so do the causative and anticausative voices in the language isolate Ainu and the Ugric language Northern Mansi (both EA). Note that the schwa in the Northern Mansi verb *woŋən-l-* is simply epenthetic. Moreover, observe that in each of the absolute antipassive and anticausative voices the voice marking is in variation with some verbal marking in the contrasting diathesis according to which it is defined (cf. Arapaho *-oo* ↔ *-ee*, Ainu *-e* ↔ *-ke*, and Northern Mansi *-t* ↔ *-l*). Nevertheless, as this book focuses strictly on voice marking, the verbal marking in the contrasting diatheses is irrelevant. The passive-antipassive syncretism in Arapaho and the causative-anticausative syncretism in Ainu and Northern Mansi thus both qualify as type 1a syncretism. More examples of Arapaho passive-antipassive syncretism are provided in Table 4.6 on page 94, while additional examples of Ainu and Northern Mansi causative-anticausative syncretism are given in Table 4.14 on page 112.

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Table 3.7: Type 1a syncretism alongside contrasting verbal marking

| Arapaho (Cowell & Moss Sr. 2008: 133ff., 155, 229, 323) | | | | |
|---|--------------------|--------------------------|----------------------|----------------------------|
| PASS | <i>neh’-</i> | ‘to kill sb.’ | ↔ <i>neh’-ee-</i> | ‘to be killed [by sb.]’ |
| PASS | <i>to3ih-</i> | ‘to follow sb.’ | ↔ <i>to3ih-ee-</i> | ‘to be followed [by sb.]’ |
| ANTP | <i>niitow-oo-</i> | ‘to hear sth.’ | ↔ <i>niitow-ee-</i> | ‘to hear [sth.]’ |
| ANTP | <i>neeceew-oo-</i> | ‘to be in charge of sb.’ | ↔ <i>neeceew-ee-</i> | ‘to be in charge [of sb.]’ |
| Ainu (Alpatov et al. 2007: 1760ff., 1780) | | | | |
| CAUS | <i>ray</i> | ‘to die’ | ↔ <i>ray-ke</i> | ‘to kill sb.’ |
| CAUS | <i>ahuy</i> | ‘to burn’ | ↔ <i>ahuy-ke</i> | ‘to burn sth.’ |
| ANTC | <i>per-e</i> | ‘to break sth.’ | ↔ <i>per-ke</i> | ‘to be broken’ |
| ANTC | <i>moymoy-e</i> | ‘to move sth.’ | ↔ <i>moymoy-ke</i> | ‘to move’ |
| Northern Mansi (Rombandeeva 1973: 154, 160) | | | | |
| CAUS | <i>lap-</i> | ‘to rise’ | ↔ <i>lap-l-</i> | ‘to raise sth.’ |
| CAUS | <i>won̄n-</i> | ‘to stretch’ | ↔ <i>won̄n-l-</i> | ‘to stretch sth.’ |
| ANTC | <i>āpram-t-</i> | ‘to hurry sb.’ | ↔ <i>āpram-l-</i> | ‘to hurry’ |
| ANTC | <i>toram-t-</i> | ‘to calm sb.’ | ↔ <i>toram-l-</i> | ‘to calm down’ |

The “antipassive-like” diathetic relations described for the Salishan languages Nxa’amxcin and Musqueam in §2.2.2 (see Table 2.1 on page 30) are rather similar to the Arapaho absolute antipassive voice relations and the Ainu and Northern Mansi anticausative voice relations presented in Table 3.7. As shown in Table 3.8, the antipassive-like diatheses in both Nxa’amxcin and Musqueam are characterised by the suffix *-m*, which also serves as voice marking in the absolute passive voices in these languages. However, as already noted in §2.2.2, the antipassive-like diatheses in the two languages do not qualify as proper antipassive voices, and the examples are consequently only presented here for the sake of comparison. Additional examples of type 1a syncretism are provided throughout the subsequent chapters, so this type of syncretism is not discussed further here.

Table 3.8: Passive-antipassive-like syncretism in Salishan languages

| Nxa'amxcin (Willett 2003: 104, 153, 158f., 164ff.) | | | | | |
|--|------------------|-----------------|---|-------------------|--------------------------|
| PASS | <i>wík-tt-</i> | 'to see sth.' | ↔ | <i>wík-tt-m</i> | 'to be seen [by sb.]' |
| PASS | <i>ɣəlq'-nt-</i> | 'to kill sb.' | ↔ | <i>ɣəlq'-nt-m</i> | 'to be killed [by sb.]' |
| ANTP-like | <i>wík-tt-</i> | 'to see sth.' | ↔ | <i>wík-m</i> | 'to see [sth.]' |
| ANTP-like | <i>ɣəlq'-nt-</i> | 'to kill sb.' | ↔ | <i>ɣəlq'-m</i> | 'to kill [sb.]' |
| Musqueam (Suttles 2004: 35, 43, 51, 231, 447f.) | | | | | |
| PASS | <i>kʷlé-t</i> | 'to spill sth.' | ↔ | <i>kʷlé-t-əm</i> | 'to be spilled [by sb.]' |
| PASS | <i>céw-ət</i> | 'to help sb.' | ↔ | <i>céw-ət-əm</i> | 'to be helped [by sb.]' |
| ANTP-like | <i>kʷán-ət</i> | 'to get sth.' | ↔ | <i>kʷán-əm</i> | 'to get [sth.]' |
| ANTP-like | <i>ʔá-t</i> | 'to call sb.' | ↔ | <i>ʔá-m</i> | 'to call [sb.]' |

3.2.2 Type 1b: full resemblance (conditioned)

On the one hand, type 1b syncretism entails full resemblance in the voice marking of two voices, like type 1a syncretism. On the other hand, in type 1b syncretism the full resemblance in question is found only under certain conditions, unlike in type 1a syncretism. Type 1b syncretism is notably rarer than type 1a syncretism, and has only been attested in six languages in the language sample. A very illustrative example of type 1b syncretism is provided in Table 3.9. In the North Omotic language Wolaytta (AF) the suffix *-ett* without a high pitch serves as voice marking in both the causative and passive voices. This suffix can alternatively have a high pitch (i.e. *-étt*) in the passive voice, but never in the causative voice (Wakasa 2008: 1008). In other words, the suffix serving as voice marking in the passive voice has two allomorphs (i.e. *-ett* and *-étt*), while the suffix serving as voice marking in the causative voice has only one (i.e. *-ett*). The allomorphic variation of the passive suffix is dependent on the “tonal prominence” of the stem to which it is attached: the allomorph *-ett* is found on stems with tonal prominence, while the allomorph *-étt* is found on stems without tonal prominence (Wakasa 2008: 84ff., 1013). This conditioned allomorphy is particularly clear if one compares the verbs *dóór-* and *door-* in Table 3.9. Note that the voice marking in the passive voice also serves as voice marking in the reflexive and reciprocal voices (see Table 5.13 on page 141).

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Table 3.9: Examples of type 1b syncretism (I)

| Wolaytta (Wakasa 2008: 217, 381, 1008, 1013f.) | | | | | |
|--|--------------|-------------------|---|------------------|----------------------------|
| CAUS | <i>boLL-</i> | ‘to get hot’ | ↔ | <i>boLL-ett-</i> | ‘to make sth. hot’ |
| CAUS | <i>7uNN-</i> | ‘to get narrow’ | ↔ | <i>7uNN-ett-</i> | ‘to make sth. narrow’ |
| PASS | <i>7ánC-</i> | ‘to mince sth.’ | ↔ | <i>7ánC-ett-</i> | ‘to be minced [by sb.]’ |
| PASS | <i>dóór-</i> | ‘to pile sth. up’ | ↔ | <i>dóór-ett-</i> | ‘to be piled up [by sb.]’ |
| PASS | <i>door-</i> | ‘to choose sb.’ | ↔ | <i>door-étt-</i> | ‘to be chosen [by sb.]’ |
| PASS | <i>bonc-</i> | ‘to respect sb.’ | ↔ | <i>bonc-étt-</i> | ‘to be respected [by sb.]’ |

Type 1b syncretism is also attested in the language isolate Kutenai (NA) which has various suffixes that can serve as voice marking in the causative voice, one of which is a glottal stop. Interestingly, a suffixal glottal stop can also serve as voice marking in the anticausative voice. As argued by Morgan (1991: 336), the underlying suffix *-p* generally serving as voice marking in the anticausative voice is “realized as glottal stop [-ʔ] before the invariantly encliticized Indicative Marker [-*ni*], and the invariantly encliticized Locative Marker [-*ki*]”. As illustrated in the following causative (3a↔3b) and anticausative diathetic relations (3c↔3d), under such conditions (here preceding the “Indicative Marker” *-ni*) the anticausative voice marking (3d) fully resembles causative voice marking (3b). More examples of the causative-anticausative syncretism in Kutenai are provided in §4.3.6 (see Table 4.14 on page 112).

(3) Kutenai (Morgan 1991: 25, 337)

- a. *yikta-ni*
spill-IND
‘It spilled’.
- b. *yikta-ʔ-ni*
spill-CAUS-IND
‘S/he/they spilled it’.
- c. *ɕuk-ni* (< *ɕuku-ni*)
light-IND
‘S/he/they lit it’.
- d. *ɕuku-ʔ-ni*
light-ANTC-IND
‘It became lit / ignited’.

Next, consider the patterns of type 1b voice syncretism in Table 3.10. In the language isolate Sandawe (AF) the causative suffix *-kɨ* and the applicative suffix *-xʰ* both have the allomorph *-kw* before a vowel due to assimilation (Steeman 2012: 46, 189). In San Francisco del Mar Huave (NA) the passive suffix *-Vch* is “homophonous with the unaspirated allomorph of the causative suffix” *-V(j)ch*, though it is worth noting that the passive suffix is rare and represents a “non-productive way of forming passives” (Kim 2008: 305). The phonological variation in the stems *-ji(o)ng* and *-pi(o)r* is due to a regular morphophonological process of vowel breaking, in this case /io/ > /i/ (Kim 2008: 52ff.). Additionally, in the Atlantic language Ganza Balanta (AF) the antipassive suffix *-t* is similar to one of the allomorphs of the causative suffix *-(V)t*. The suffix *-t* only has an antipassive use with four verbs though, two of which are exemplified in Table 3.10, while the other two verbs are illustrated in Table 4.11 on page 105. From a language-specific perspective, the Ganza Balanta verbs in the causative and antipassive voices belong to different verb classes, as indicated by the final infinitive vowels (Creissels & Biaye 2016: 208ff.).

Table 3.10: Examples of type 1b syncretism (II)

| Sandawe (Steeman 2012: 148f., 189f., 237) | | | | | |
|--|----------------|-------------------|---|--------------------|--------------------------|
| CAUS | <i>kê</i> | ‘to ascend’ | ↔ | <i>kê-kw-</i> | ‘to let sth. ascend’ |
| CAUS | <i>mântshà</i> | ‘to eat sth.’ | ↔ | <i>mântshà-kw-</i> | ‘to make sb. eat sth.’ |
| APPL | <i>mântshà</i> | ‘to eat sth.’ | ↔ | <i>mântshà-kw-</i> | ‘to eat sth. for sb.’ |
| APPL | <i>llhémé</i> | ‘to pay sth.’ | ↔ | <i>llhémé-kw-</i> | ‘to pay sth. for sb.’ |
| San Francisco del Mar Huave (Kim 2008: 305, 311) | | | | | |
| CAUS | <i>pal-</i> | ‘to end’ | ↔ | <i>-pal-ach</i> | ‘to end sth.’ |
| CAUS | <i>-jiong</i> | ‘to dance’ | ↔ | <i>-jing-ach</i> | ‘to make sb. dance’ |
| PASS | <i>-rriujt</i> | ‘to choose sb.’ | ↔ | <i>-rriujt-ach</i> | ‘to be chosen [by sb.]’ |
| PASS | <i>-pior</i> | ‘to sow sth.’ | ↔ | <i>-pir-ach</i> | ‘to be sown [by sb.]’ |
| Ganza Balanta (Creissels & Biaye 2016: 209ff.) | | | | | |
| CAUS | <i>sug</i> | ‘to drink sth.’ | ↔ | <i>sug-t.ɪ</i> | ‘to make sb. drink sth.’ |
| CAUS | <i>sum</i> | ‘to get pleasant’ | ↔ | <i>sum-t.ɪ</i> | ‘to make sth. pleasant’ |
| ANTP | <i>wɔm</i> | ‘to eat sth.’ | ↔ | <i>wɔm-t.ɛ</i> | ‘to eat [sth.]’ |
| ANTP | <i>rɔŋ</i> | ‘to crush sth.’ | ↔ | <i>rɔŋ-t.ɛ</i> | ‘to crush [sth.]’ |

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Finally, [Montgomery-Anderson \(2008: 343, 347\)](#) argues that the Southern Iroquoian language Cherokee (NA) has a “reflexive prefix” as well as a “middle voice prefix” with “some similarities in form and meaning to the Reflexive and probably developed out of it”. The “reflexive prefix” serves as voice marking in the reflexive, reciprocal, and antipassive voices and has three allomorphs: *ataa-* before consonants, *at-* before the vowel /a/, and *ataat-* before all other vowels ([Montgomery-Anderson 2008: 343](#)). By contrast, the “middle voice prefix” serves as voice marking in the anticausative voice, and also has three allomorphs: *ali-* before the consonant /h/ (and seemingly also before /s/ and /n/), *ataa-* before all other consonants, and *at-* before all vowels ([Montgomery-Anderson 2008: 372](#)). Evidently, the allomorphs of the two prefixes are identical under certain phonological conditions, namely before consonants other than /h/, /s/, and /n/ and before the vowel /a/. These prefixes in Cherokee are illustrated and discussed further in §5.2.2 (see Table 5.8 on page 136).

As suggested by [Montgomery-Anderson \(2008\)](#), the diachronic origin of type 1b syncretism in Cherokee can probably be explained in terms of semantic and functional convergence. It is not unlikely that type 1b syncretism in Wolaytta and San Francisco del Mar Huave can be explained in the same manner considering the distinct forms of their respective voice markers, though there are currently little historical data available for the languages to support such a claim. By contrast, type 1b syncretism in Kutenai and Sandawe is almost certainly the result of coincidental phonological convergence, while [Creissels & Biaye \(2016\)](#) do not shed any light upon the origin of type 1b syncretism in Ganja Balanta.

3.2.3 Type 2: partial resemblance

As noted in §3.2, investigations of voice syncretism in the literature tend to focus on a full resemblance in the voice marking of two or more voices, while partial resemblance has received comparatively little attention – with the notable exception of [Nedjalkov](#) (see Table 1.2 on page 3). Nevertheless, although explicit discussions of type 2 syncretism are rare in the literature, this type of syncretism is not uncommon cross-linguistically. Type 2 syncretism is only attested in one tenth of all the languages in the language sample, yet the syncretism is attested in a quarter of all languages in the sample featuring voice syncretism (see Table 6.9 on page 155). Thus, type 2 syncretism can be found in a rather large portion of languages with voice syncretism. Furthermore, type 2 syncretism is not restricted to the reflexive-reciprocal syncretism discussed by [Nedjalkov \(2007d\)](#) but is attested for a wide range of different patterns of voice syncretism in the language sample. Consider for instance the examples of type 2 syncretism provided in Ta-

ble 3.11. In the language isolate Kwaza (SA) the causative voice is characterised by the suffix *-dy* which has become lexicalised in a number of verbs, including *wady* ‘to give’ in which the suffix appears after the root **wa* of unknown origin and meaning (van der Voort 2004: 372f.). In turn, this verb has grammaticalised into the morpheme *=wady* which serves as voice marking in the applicative voice. In the Siouan language Assiniboiné (NA) the applicative prefix *ki-* forms part of the reciprocal prefix *kic^{hi}-* (these prefixes are further discussed in §4.4.4). Coincidentally, the Kxa language †Hòǎ (AF) also features a prefix *ki-* of interest to this discussion. In this language the prefix in question serves as voice marking in both the causative and passive voices, but always features a high tone in the former voice “clearly distinguished from the low tone” employed in the latter voice (Collins & Gruber 2014: 166). Additional examples of type 2 syncretism are provided throughout the following chapters, and the syncretism is therefore not discussed further here.

Table 3.11: Examples of type 2 syncretism

| Kwaza (van der Voort 2004: 110, 366, 373, 898) | | | | |
|--|-------------------------|-------------------|-------------------------------------|--------------------------|
| CAUS | <i>kāu-</i> | ‘to break’ | ↔ <i>kāu-dy-</i> | ‘to break sth.’ |
| CAUS | <i>māmāñē-</i> | ‘to sing’ | ↔ <i>māmāñē-dy-</i> | ‘to make sb. sing’ |
| APPL | <i>māmāñē-</i> | ‘to sing’ | ↔ <i>māmāñē=wady-</i> | ‘to sing for sb.’ |
| APPL | <i>hāte-</i> | ‘to count sth.’ | ↔ <i>hāte=wady-</i> | ‘to count sth. for sb.’ |
| Assiniboiné (Cumberland 2005: 263, 271) | | | | |
| APPL | <i>ná</i> | ‘to ask for sth.’ | ↔ <i>ki-ná</i> | ‘to ask sb. for sth.’ |
| APPL | <i>yuk^hq</i> | ‘to give room’ | ↔ <i>ki-yúk^hq</i> | ‘to give room for sb.’ |
| RECP | <i>pažípa</i> | ‘to poke sb.’ | ↔ <i>kic^{hi}-pažípa</i> | ‘to poke e.o.’ |
| RECP | <i>yaʔíškata</i> | ‘to tease sb.’ | ↔ <i>kic^{hi}-yaʔíškata</i> | ‘to tease e.o.’ |
| †Hòǎ (Cumberland 2005: 21, 142, 164f., 186) | | | | |
| CAUS | <i>ču</i> | ‘to drink sth.’ | ↔ <i>kí-ču</i> | ‘to make sb. drink sth.’ |
| CAUS | <i>ám</i> | ‘to eat sth.’ | ↔ <i>kí-ám</i> | ‘to make sb. drink sth.’ |
| PASS | <i>ám</i> | ‘to eat sth.’ | ↔ <i>kì-ám</i> | ‘to be eaten [by sb.]’ |
| PASS | <i>ǵǝǝ</i> | ‘to strike sb.’ | ↔ <i>kì-ǵǝǝ</i> | ‘to be struck [by sb.]’ |

3.2.4 Type 3: reverse resemblance

Type 3 syncretism is based on reverse resemblance in voice marking which denotes a peculiar phenomenon whereby voice marking in a given language appears as a suffix in one voice but as a prefix in another. The reverse resemblance does not refer to a “reverse” meaning but rather to the “reverse” manner in which the voice marking appears on the respective verbs. Discussions of type 3 syncretism are very rare in the literature, and it has only been possible to find one prior typological discussion of the phenomenon. In a description of reciprocity in the Gunwinyguan language Nunggubuyu (AU), [Nedjalkov \(2007d: 252\)](#) briefly mentions that the applicative prefix *an^yji-* is “most likely etymologically related” to the phonologically rather similar suffix *-n^yji* which serves as voice marking in the reflexive, reciprocal, and antipassive voices. For example, compare the verbs *an^yji-n^gama* ‘to swim with sb.’, *ri-n^yji* ‘to spear self’ or ‘to spear e.o.’, and *warguri-n^yji* ‘to carry [sb.] on the shoulders’ ([Heath 1984: 382, 392](#)). More examples are provided in §5.2.2 (see Table 5.9 on page 137). Five other languages with type 3 voice syncretism have been attested in the language sample of this book, and the syncretism in these languages is illustrated in Table 3.12.

Two languages in the sample feature applicative-reciprocal type 3 syncretism, the Nadahup language Hup and the language isolate Mosetén (both SA). In Hup a so-called “Interactional” prefix *?üh-* representing “the primary strategy for indicating reciprocal relations” ([Epps 2008: 487](#)) bears resemblance to the applicative suffix *-?üh*. [Epps \(2008: 500\)](#) explicitly argues that “[i]n contrast to the Interactional preform *?üh-*, which often functions to decrease valency, Applicative *-?üh-* is a valency-increaser”. [Epps \(2008: 119f.\)](#) argues that *?üh* can be understood as a unit “of segmental phonological material” that is “best treated as distinct morphemes on the synchronic level, but as a diachronically unitary entity, from which the functional variants have arguably been derived through grammaticalization”. [Epps](#) adds that *?üh* in Hup can function as the lexical root ‘sibling of opposite sex’, as a jussive or optative marker, and as an epistemic modality marker. In turn, in Mosetén the prefix *ti-* serves as voice marking in the applicative voice, while the suffix *-ti* can serve as voice marking in the reciprocal voice – as well as in the reflexive and passive voices (see Table 4.3 on page 81). [Sakel \(2004: 186, 190, 233ff.\)](#) remarks that the suffix *-ti* can additionally function as a verbal stem marker or play a role in cross-referential marking. [Sakel \(2004: 311ff.\)](#) also mentions an antipassive function but based on the limited data she provides in her description of this phenomenon, it has not been possible to assert whether or not it complies with the antipassive definitions employed in this book (§2.2.2). [Sakel \(2004: 233\)](#) only briefly addresses the reverse resemblance of the affixes *ti-*

Table 3.12: Examples of type 3 syncretism

| | | | | |
|--|-------------------|--------------------|------------------------|----------------------------------|
| Hup (Epps 2008: 408, 486, 500, 574, 672, 852) | | | | |
| APPL | <i>d'o?</i> | ‘to take/get sth.’ | ↔ <i>d'o?-ʔũh</i> | ‘to take/get sth. for sb.’ |
| APPL | <i>mæh</i> | ‘to hit/kill sb.’ | ↔ <i>mæh-ʔũh</i> | ‘to kill sb. for sb.’ |
| RECP | <i>nɔ?</i> | ‘to give sb. sth.’ | ↔ <i>ʔũh-nɔ?</i> | ‘to give e.o. sth.’ |
| RECP | <i>mæh</i> | ‘to hit/kill sb.’ | ↔ <i>ʔũh-mæh</i> | ‘to hit e.o.’ |
| Mosetén (Sakel 2004: 64, 193, 212, 322, 391, 455) | | | | |
| APPL | <i>tyar-i-</i> | ‘to be sad’ | ↔ <i>ti-tyar-i-</i> | ‘to be sad about sth.’ |
| APPL | <i>bae'-i-</i> | ‘to live’ | ↔ <i>ti-bae'-i-</i> | ‘to live with sb.’ |
| RECP | <i>tyaj-ki-</i> | ‘to meet sb.’ | ↔ <i>tyaj-ki-ti-</i> | ‘to meet e.o.’ |
| RECP | <i>chha'sh-i-</i> | ‘to reach sb.’ | ↔ <i>chha'sh-i-ti-</i> | ‘to reach e.o.’ |
| Alamblak (Bruce 1979: 177, 209, 250, 255, 356, 431) | | | | |
| CAUS | <i>tat</i> | ‘to hit sb.’ | ↔ <i>hay-tat</i> | ‘to make sb. hit sb.’ |
| CAUS | <i>yi</i> | ‘to go’ | ↔ <i>hay-ni</i> | ‘to make sb. go’ |
| APPL | <i>wikna</i> | ‘to buy sth.’ | ↔ <i>wikna-hay</i> | ‘to buy sth. for sb.’ |
| APPL | <i>suh</i> | ‘to fall’ | ↔ <i>suh-hay</i> | ‘to fall for the benefit of sb.’ |
| Ainu (Bugaeva 2004: 44; 2015: 445; Alpatov et al. 2007: 1770) | | | | |
| CAUS | <i>kay</i> | ‘to break’ | ↔ <i>kay-e</i> | ‘to break sth.’ |
| CAUS | <i>nukar</i> | ‘to see sth.’ | ↔ <i>nukar-e</i> | ‘to make sb. see sth.’ |
| APPL | <i>mina</i> | ‘to laugh’ | ↔ <i>e-mina</i> | ‘to laugh about/at sth.’ |
| APPL | <i>rayap</i> | ‘to be delighted’ | ↔ <i>e-rayap</i> | ‘to be delighted about sth.’ |
| Nivkh (Otaina & Nedjalkov 2007: 1726ff.; Nedjalkov & Otaina 2013: 133) | | | | |
| CAUS | <i>vaχt'-</i> | ‘to tear’ | ↔ <i>vaχt'-u</i> | ‘to tear sth.’ |
| CAUS | <i>veta-</i> | ‘to get dressed’ | ↔ <i>veta-u</i> | ‘to dress sb.’ |
| RECP | <i>i-γ-</i> | ‘to kill sb.’ | ↔ <i>u-γ-</i> | ‘to kill e.o.’ |
| RECP | <i>(i-)ŋali-</i> | ‘to resemble sb.’ | ↔ <i>u-ŋali-</i> | ‘to resemble e.o.’ |

3 Defining voice syncretism

and *-ti*, noting that the latter suffix “frequently occurs in relation to applicatives”. Observe that the Mosetén verbs *ti-tyar-i-* and *ti-bae'-i-* included in Table 3.12 appear as *ti-tyar-a-* and *ti-bae'-e-* in the original source but represent the same stem (Sakel 2004: 322). For information about the regular vowel changes, see the discussion of examples (10a–10d) on page 93. Moreover, note that the verbal stem with the meaning ‘to reach sth.’ is given by Sakel (2004: 121, 391) variably as *chha'ch-* and *chhash-*. The variation between the final consonant *ch* and *sh* likely represents a regular consonant alternation (Sakel 2004: 48f.), while the glottal stop in the former form has possibly been omitted by accident in the latter form.

Likewise, two languages in the sample feature causative-applicative type 3 syncretism, the Sepik language Alamblak (PN) and the language isolate Ainu (EA). Bruce (1979: 254) explicitly argues that in Alamblak the “[p]arallels between causative and benefactive constructions are obvious”, as “[o]ne of the formatives is the same (*hay* ‘give’ prefixed as a causative and suffixed as a benefactive) and similar semantic features characterize both”. The verbal form *ni* in the second Alamblak causative example in Table 3.12 is a regular word-medial allomorph of *yi* ‘to go’ (Bruce 1979: 250). Bruce (1979: 358) even provides an example featuring both affixes, *hay-noh-hay* ‘to kill sb. affecting sb. else’ (cf. *noh* ‘to die’). Ainu has several more or less productive causative suffixes, one of which is *-e*. The language also possesses a phonologically similar prefix *e-* which serves as voice marking in the applicative voice. While the reverse resemblance described for Alamblak and Hup (and possible also for Mosetén) can be explained by semantic similarities in function, the reverse resemblance in Ainu is likely the result of coincidental phonological convergence. The suffix *-e* has two allomorphs, *-re* and *-te*, and Bugaeva (2015: 475) notes that the three variant forms likely can be traced back to Proto-Ainu **de* of unknown origin (Vovin 1993). Alternatively, Nonno (2015: 15ff.) argues that the allomorphs in question can be traced back to the verb **ki* ‘to do, act’ which has grammaticalised and subsequently undergone a series of assimilations: **ki* > **-ki* > *-ke* > *-te* > *-re* > *-e* (e.g. **nukar-ki* > **nukar-ke* > **nukar-te* > **nukar-re* > *nukar-e*). The causative suffix *-ke* is retained in the language, but generally treated separately from *-e/-re/-te* (Bugaeva 2015). The use of *-ke* as causative marking was already illustrated in the discussion of type 1a syncretism (see Table 3.7 on page 64). In any case, the diachronic origin of the suffix *-e* seems to differ from that of the prefix *e-* which “probably originated in the relational noun with the meaning ‘head’ that is retained as a lexical prefix *e-* ‘(its) head/top’” (Bugaeva 2010: 762).

Last but not least, causative-applicative type 3 syncretism has been attested in the language isolate Nivkh (EA). In this language the suffix *-u* serves as causative voice marking on its own with approximately 15 verbs having a word-initial sonorant and in combination with a plosive-fricative alternation with 40 additional verbs with a word-initial plosive, e.g. *pil-* ‘to be big’ ↔ *vil-u-* ‘to make sth. (be) big’ (Otaina & Nedjalkov 2007: 1721f.; Nedjalkov & Otaina 2013: 132f.). The phonologically similar prefix *u-* can be used with (at most) a handful of verbs as reciprocal marking. Note that the prefix *u-* has an allomorph *v-* found with “about 30 relic verbs” (Otaina & Nedjalkov 2007: 1726ff.; Nedjalkov & Otaina 2013: 107f.), and also that the prefix often is in variation with a prefix in non-reciprocal counterpart verbs (typically *i-* or *j-*). As in the case of the Ainu affixes *-e* and *e-*, the reverse resemblance between Nivkh *-u* and *u-* is most likely coincidental.

A seventh language in the sample, the Tibeto-Burman language Anong (EA), seems to possess something akin to type 3 causative-reflexive syncretism, yet the extent of the phenomenon in the language is difficult to ascertain due to lack of data. Sun & Liu (2009: 24, 82) state that the reflexive suffix *-ɕu³¹* has two allomorphs, *-ɕɿ³¹* and *-se³¹* (the superscript numerals here denote tone, while the grapheme ⟨ɿ⟩ represents a lateral approximant /l/ after retroflex consonant). The former allomorph *-ɕɿ³¹* is phonologically identical to the causative prefix *ɕɿ³¹*-. However, Sun & Liu (2009: 82) describe reflexive marking in Anong as “unproductive”, and they note that it in some cases has been “fossilized with the verb root”, and “seems to include some middle marking” or “fossilized remains of middle marking”. As no clear (glossed and translated) reflexive examples of the suffix *-ɕɿ³¹* are given by Sun & Liu, it is not clear whether it qualifies as reflexive voice marking according to the reflexive definition employed in this book (§2.2.3).

4 Simplex voice syncretism

Given the seven voices of focus in this book (i.e. passive, antipassive, reflexive, reciprocal, anticausative, causative, applicative), 21 patterns of voice syncretism can logically be posited when one considers *two* voices sharing the same voice marking (Table 4.1). In this chapter these patterns of simplex voice syncretism are discussed in terms of minimal syncretism. In other words, syncretic voice marking is here discussed in relation to two voices at a time, even if the marking in question happens to have additional voice functions. Nevertheless, it is duly noted throughout the following sections if a pattern of simplex voice syncretism features voice marking that is shared by other patterns and voices as well (maximal syncretism). If the voice marking in any given pattern of simplex voice syncretism is not mentioned to have additional voice uses, the minimal syncretism of the marking equals its maximal syncretism. This distinction between minimal and maximal voice syncretism has been described in Chapter 1. Complex voice syncretism is discussed in terms of maximal syncretism in the next chapter.

Table 4.1: Patterns of minimal simplex voice syncretism

| Middle | Antipassive | Causative | Applicative |
|-----------|-------------|-----------|-------------|
| REFL-RECP | ANTP-REFL | CAUS-APPL | APPL-PASS |
| REFL-ANTC | ANTP-RECP | CAUS-PASS | APPL-ANTP |
| RECP-ANTC | ANTP-ANTC | CAUS-ANTP | APPL-REFL |
| PASS-REFL | PASS-ANTP | CAUS-REFL | APPL-RECP |
| PASS-RECP | | CAUS-RECP | APPL-ANTC |
| PASS-ANTC | | CAUS-ANTC | |

The 21 patterns of simplex voice syncretism covered by this chapter are divided into the four groupings shown in Table 4.1 to facilitate their discussion in a convenient manner. Middle syncretism here refers to voice syncretism involving two of the following four voices: passive, reflexive, reciprocal, and anticausative (§4.1). In turn, antipassive syncretism here refers to voice syncretism involving the antipassive voice and one of the voices associated with middle syncretism

(§4.2). By contrast, causative syncretism refers to any pattern of voice syncretism involving the causative voice (§4.3), while applicative syncretism refers to voice syncretism involving the applicative voice and another voice except the causative voice (§4.4). The four groupings are essentially arbitrary, though it can be noted that the groupings reflect the frequencies of the various patterns in the language sample to some extent: patterns of middle syncretism are generally more frequent than other patterns of syncretism cross-linguistically, while patterns of applicative syncretism tend to be less frequent than other patterns. There are, however, a handful of exceptions to this generalisation. For instance, causative-applicative syncretism is more frequent than many patterns of middle and antipassive syncretism. In any case, the exact frequencies (and distribution) of the various patterns will not be discussed here but in Chapter 6. Furthermore, observe that the order in which two voices are listed in any given pattern of syncretism is completely arbitrary and does not denote any particular diachronic development. For instance, the pattern called “causative-passive” in §4.3.2 could just as well have been called “passive-causative”, and the term itself does not necessarily indicate that the use of a causative marker has extended its functional scope to cover passivity (nor vice versa). Diachrony of voice syncretism is only briefly addressed in this chapter, but treated more extensively in Chapter 7.

4.1 Middle syncretism

Patterns of middle syncretism are among the most common patterns of voice syncretism among the world’s languages (see Table 6.13 on page 159), and the linguistic literature on middle syncretism is accordingly vast, although the syncretism has generally been discussed rather implicitly (§3.1.1). For practical reasons it is not feasible to describe and illustrate middle syncretism in all the languages in which it is attested in the language sample nor is it possible to address and discuss all previous research dealing with the syncretism. Instead, as middle syncretism is already a well-known phenomenon, the various patterns of the syncretism are only briefly described in the following sections.

4.1.1 Reflexive-reciprocal

Reflexive-reciprocal syncretism is well-attested (Geniušienė 1987; Knjazev 1998; Nedjalkov 2007a), although the extent of its prevalence has occasionally been questioned. For instance, Creissels (2016: 66) argues that “[t]he reflexive-reciprocal syncretism does not seem to be particularly widespread in the languages of the

world, but it is found in several branches of Indo-European”. Nevertheless, reflexive-reciprocal syncretism is by far the most frequently attested pattern of voice syncretism attested in the language sample. Indeed, the syncretism in question is attested in close to one fifth of all the languages in the sample, that is 49 languages (see Table 6.13 on page 159) – only one of which belongs to the Indo-European language family, Eastern Armenian (EA). The reflexive-reciprocal syncretism attested in the language sample is primarily of type 1, though a handful of languages feature reflexive-reciprocal type 2 syncretism. For the sake of illustration, reflexive-reciprocal type 1 syncretism is here described for one language. In the Algic language Arapaho (NA) reflexive-reciprocal syncretism is characterised by the suffix *-etí*, as seen in the following voice relation (1a↔1b). The voice in (1b) qualifies as either reflexive or reciprocal depending on context. Cowell & Moss Sr. (2008: 140) argue that “[w]hen the person inflection is plural, either meaning can be possible and only context makes clear which is intended”. For comparison, the verb *henéeteti3-etí-noo* marked by the first person singular suffix *-noo* can only have a reflexive reading, ‘I am speaking to myself’ (Cowell & Moss Sr. 2008: 139). Note that the underlying verbal stem in both (1a) and (1b) is the same, *eeneti3*. The prefixal part *hen-* results from an “initial change” (glossed IC), “a morphophonological process that serves grammatically to indicate either present tense and ongoing aspect or present perfect tense and aspect in affirmative order verbs and conjunct iterative verbs”, and the differences in pitch are also morphophonologically conditioned (Cowell & Moss Sr. 2008: 22ff., 73).

(1) Arapaho (Cowell & Moss Sr. 2008: 110, 140)

- a. *heneenétí3-é3en*
IC.speak-1SG/2SG
‘I am speaking to you’.
- b. *henéénetí3-etí-no’*
IC.speak-REFL/RECP-DU
‘We are speaking to ourselves’.
‘We are speaking to each other’.

Similar reflexive-reciprocal type 1 syncretism has already been discussed and exemplified for the West Bougainville language Rotokas (PN) in §3.2.1 (see examples 1a–2c on page 62). While the Arapaho suffix *-etí* and the Rotokas prefix *ora-* serve as voice marking only in the reflexive and reciprocal voices, in other languages voice marking found in the reflexive and reciprocal voices might have additional voice functions as well (see §5.1 for multiple examples). In turn,

reflexive-reciprocal type 2 syncretism has already been illustrated with examples from the North Halmaheran language Tidore (PN), the Northern Pama-Nyungan language Uradhi (AU), Bolivian Quechua (SA), and the Hokan language Yurok (NA) in Chapter 1 (see Table 1.2 on page 3). In terms of diachrony, reflexive-reciprocal syncretism is often assumed to have a reflexive origin, meaning that the syncretic voice marking in question originally had a reflexive function before eventually developing a reciprocal function (§7.1.1). However, evidence from some languages indicate that the opposite development can occur as well (§7.2.1).

4.1.2 Reflexive-anticausative

Reflexive-anticausative syncretism is also cross-linguistically prevalent and is attested exclusively as type 1 syncretism in the language sample. This kind of syncretism is here illustrated by examples from the Torricelli language Yeri (PN). In this language the prefix *d-* serves as voice marking not only in the reflexive (2a↔2b) and anticausative voices (2c↔2d), but also in the reciprocal voices (see Table 5.3 on page 130). The lack of a broader context in (2c) makes the example somewhat opaque. However, the author explicitly states that the verb in the example “involves the act of hanging an item” (Wilson 2017: 370), in this case an implicit item (marked by the infix <he> language-specifically). Observe that the difference in the glossing of the prefix *w-* is not a mistake: the prefix is syncretic in the language and can indicate both a third personal female person and third person plural persons.

(2) Yeri (Wilson 2017: 369f., 451)

- a. *n-altou* *yewal w-ei=de-n* *n-aruba-i-bai*
3SG.M-cover.REAL eye REL-PL=3-SG.M 3SG.M-do.well.REAL-PL-RDPL
‘He covered his eyes very very carefully’.
- b. *te-Ø* *w-d-altou*
3-SG.F 3SG.F-REFL-cover.REAL
‘She covered herself’.
- c. *peigilia-i w-goba* *w-a<he>-wil*
some-PL 3PL-bend.in.half.REAL 3PL-hang.REAL<SG.F>
‘Some just break and hang it’.
- d. *hiwol* *wanagawil yot-ua-Ø,* *w-d-awil*
breadfruit breadfruit DEM-DIST-SG.F 3SG.F-ANTC-hang.REAL
‘The breadfruit’s fruit there, it hangs’.

Reflexive-reciprocal voice marking is very often syncretic with voice marking in other voices (as in Yeri), though some languages do feature voice marking that is exclusive to the reflexive and reciprocal voices. This is, for instance, true for the South American language isolate Urarina (cf. *ne-* in Appendix C) and the Eurasian language isolate Nivkh (see Table 7.6 on page 180). Other examples of reflexive-reciprocal syncretism are provided in §5.1. The syncretism in question generally has a reflexive origin (§7.1.2), though an anticausative origin has been proposed for reflexive-anticausative syncretism in at least one language, Indo-European Hittite (§7.3.1).

4.1.3 Reciprocal-anticausative

Like reflexive-reciprocal syncretism, reciprocal-anticausative syncretism is rather well-attested as both type 1 and type 2 syncretism. The former type of reciprocal-anticausative syncretism is here illustrated for the Northern Chukotko-Kamchatkan language Chukchi (EA) by a reciprocal voice relation (3a ↔ 3b) as well as an anticausative voice relation (3c ↔ 3d). Evidently, the suffix *-tku/-tko* conditioned by vowel harmony (Dunn 1999: 48) serves as voice marking in both the reciprocal voice (3b) and the anticausative voice (3d). Nedjalkov (2006: 221f.) calls the suffix “the most syncretic suffix in Chukchi”, noting that it can also be found in the antipassive and reflexive voices (see Table 5.7 on page 135).

(3) Chukchi (Nedjalkov 2006: 222)

- a. *ommačajpə-nen*
hug-AOR.3SG:3SG
‘He hugged him’.
- b. *ommačajpə-tko-γʔat*
hug-RECP-AOR.3PL
‘They hugged each other’.
- c. *ejpə-nin*
close-AOR.3SG:3SG
‘He closed it’.
- d. *ejpə-tku-γʔi*
close-ANTC-AOR.3SG
‘It closed’.

Reciprocal-anticausative voice marking is – like reflexive-reciprocal voice marking – very often syncretic with voice marking in other voices (as in the case of

Chukchi). In fact, it has only been possible to find one language in which a given voice marker is restricted exclusively to the reciprocal and anticausative voices. In the South Omotic language Hamar (AF) the suffix *-Vm* is marginally productive as both a reciprocal marker (e.g. *sunq-* ‘to kiss sb.’ ↔ *sunq-um-* ‘to kiss e.o.’) and an anticausative marker (e.g. *bax-* ‘to cook sth.’ ↔ *bax-em-* ‘to cook’, [Petrollino 2016](#): 148ff.). Other cases of reciprocal-anticausative type 1 syncretism are provided in §5.1, §5.2.2, and §5.4. By contrast, reciprocal-anticausative type 2 syncretism is not exemplified elsewhere in this book, for which reason it is here illustrated for the Central Arawakan language Paresi-Haliti (SA) in Table 4.2. In this language the suffix *-kako* serves as voice marking in the reciprocal voice while the suffix *-oa* serves as voice marking in the anticausative voice. The stem-final vowel /a/ in the anticausative examples is deleted “when suffixes are attached” ([Brandão 2014](#): 68f.). [Brandão \(2014: 259\)](#) argues that the suffix *-kako* “may be further analyzed as formed by reciprocal *-kak* and the middle voice form *-oa*”, which reflect the reciprocal suffix **-k^hak^h* and the reflexive suffix **-wa* reconstructed by [Wise \(1990\)](#) for Proto-Arawakan, respectively. The suffix *-oa* retains the reflexive function in Paresi-Haliti (e.g. *fehanatya* ‘to bless sb.’ ↔ *fehanaty-oa* ‘to bless self’, [Brandão 2014](#): 251).

Table 4.2: Reciprocal-anticausative syncretism in Paresi-Haliti

| Paresi-Haliti (Brandão 2014 : 248ff., 256, 367, 372) | | | | | |
|---|-------------------|--------------------|---|---------------------|-----------------|
| RECP | <i>zakolo</i> | ‘to hug sb.’ | ↔ | <i>zakolo-kako</i> | ‘to hug e.o.’ |
| RECP | <i>xaka</i> | ‘to shoot sb.’ | ↔ | <i>xaka-kako</i> | ‘to shoot e.o.’ |
| ANTC | <i>txiholatya</i> | ‘to open sth.’ | ↔ | <i>txiholaty-oa</i> | ‘to open’ |
| ANTC | <i>etolitsa</i> | ‘to lay sth. down’ | ↔ | <i>etolits-oa</i> | ‘to lie down’ |

As briefly mentioned in the previous two sections, it is well-known that reflexive voice marking can develop both reciprocal and anticausative functions. By contrast, evidence for voice development from reciprocal to anticausative (§7.2.2) and vice versa (§7.3.2) is rare.

4.1.4 Passive-reflexive

Passive-reflexive type 1 syncretism is here illustrated for the Tangkic language Kayardild (AU), in which the suffixal lengthening of the last vowel of a verbal stem characterises both the passive and reflexive voices (4a ↔ 4b) as well as the anticausative voice (see Table 5.3 on page 130). Other languages feature voice

marking restricted to the passive and reflexive voices, including the African language isolate Chabu (cf. *-we* in Appendix C) and the South American languages Filomeno Mata Totonac and Bora (see Table 7.7 on page 183). Additional examples of passive-reflexive type 1 syncretism are given in §5.1, §5.2.1, §5.3.1, and §5.4.

(4) Kayardild (Evans 1995: 307, 352)

- a. *ngada kurulutha bala-tha niwan-ji wangalk-ur*
 1SG.NOM hard/intensely hit-ACTIVE him-LOC boomerang-PROP
 ‘I hit him hard with the boomerang’.
- b. *ngada bala-a-ja karwa-wuru*
 1SG.NOM hit-PASS/REFL-ACTIVE club-PROP
 ‘I was hit with a club’.
 ‘I hit myself with a club’.

Passive-reflexive type 2 syncretism was briefly mentioned in §3.2.4 in relation to the language isolate Mosetén (SA) but is properly exemplified here. As Table 4.3 shows, the suffix *-ti* in this language can serve as voice marking not only in the reciprocal voice, but also in the reflexive and passive voices in combination with the affix *-ja/ja-*. Note that the verbs *ji-ti-*, *tyáph-yi-*, and *jo-yi-* appear as *ji-te-*, *tyáph-ye-*, and *jo-ye-* in the original source, respectively, because the stem-final /i/ becomes /e/ before “transitive cross-reference forms which do not trigger vowel harmony” (Sakel 2004: 45). The affix *-ja/ja-* generally appears as a prefix but can appear as a suffix on verbs featuring the verbal stem marker *-yi* (Sakel 2004: 229). The affix may “have developed from a causative with the form *ja-*, though synchronically such a form does not exist” (Sakel 2004: 303).

Table 4.3: Passive-reflexive syncretism in Mosestén

| Mosetén (Sakel 2004: 42, 137, 155, 194, 251ff., 304) | | | | | |
|--|------------------|-----------------|---|------------------------|--------------------------|
| PASS | <i>ji-ti-</i> | ‘to send sth.’ | ↔ | <i>ja-ji-ti-ti-</i> | ‘to be sent [by sb.]’ |
| PASS | <i>tyáph-yi-</i> | ‘to grab sth.’ | ↔ | <i>tyáph-já-yi-ti-</i> | ‘to be grabbed [by sb.]’ |
| REFL | <i>jo-yi-</i> | ‘to serve sth.’ | ↔ | <i>jo-yi-ti-</i> | ‘to serve self’ |
| REFL | <i>kaw-i-</i> | ‘to see sth.’ | ↔ | <i>kaw-i-ti-</i> | ‘to see self’ |

In terms of diachrony, passive-reflexive syncretism is generally believed to evolve from reflexivity through an intermediary stage of anticausativity (§7.1). However, this scenario is not particularly convincing for languages in which

passive-reflexive voice marking does not have an anticausative function nor traces thereof, including Chabu, Filomeno Mata Totonac and Bora mentioned further above (§7.1.3). Moreover, there is some sparse evidence pointing towards a passive origin for passive-reflexive syncretism in a few languages (§7.4.1).

4.1.5 Passive-reciprocal

In terms of type 1 syncretism, passive-reciprocal syncretism is the least frequent pattern of middle syncretism in the sample, though quite a few languages feature passive-reciprocal type 2 syncretism instead. The former type of passive-reciprocal syncretism is here illustrated by examples from the East Chadic language Baraïn (AF). As seen in the following voice relation (5a↔5b), in this language the suffix *-jó* evidently serves as voice marking in both the passive and reciprocal voices. Lovestrand (2012: 148ff.) also considers a reflexive function of this suffix but concludes that it is “less natural” (and the only potential example he provides is preceded by a question mark), noting instead that reflexivity in the language is expressed periphrastically. Consequently, a reflexive function for the suffix *-jó* is not recognised here. However, in many other languages voice marking found in the passive and reciprocal voices does indeed also have additional voice functions (for examples, see §5.1, §5.3.1, and §5.4).

(5) Baraïn (Lovestrand 2012: 137, 150)

- a. *Músà jár-gà* *Mám:àt*
NAME search-OBJ.3.M NAME
‘Moussa is looking for Mammat’.
- b. *nándángá jár-ō-jó*
children search-PRF-RECP/PASS
‘The children were looked for’.
‘The children looked for each other’.

Passive-reciprocal type 2 syncretism is illustrated in Table 4.4 by examples from the Central Cushitic language Khimt’anga (AF), in which the suffix *-fit/-fit* serves as voice marking in both the passive and reciprocal voices, in the latter voice accompanied by reduplication. Observe that the schwa in the reduplicated forms is simply a “linking vowel” (Teshome 2015: xxi). Interestingly, as described in §4.3.1, in Khimt’anga reduplication is even used to differentiate the causative and applicative voices, which are otherwise both marked by the suffix *-s* (see Table 4.8 on page 99).

Table 4.4: Passive-reciprocal syncretism in Khimt'anga

| Khimt'anga (Teshome 2015: 239) | | | | | |
|--------------------------------|--------------|---------------|---|---------------------------------|-------------------------|
| PASS | <i>k'iw-</i> | 'to kill sb.' | ↔ | <i>k'iw-ifit-</i> | 'to be killed [by sb.]' |
| PASS | <i>kəβ-</i> | 'to help sb.' | ↔ | <i>kəβ-ifit-</i> | 'to be helped [by sb.]' |
| RECP | <i>k'iw-</i> | 'to kill sb.' | ↔ | <i>k'iw-ə-k'iw-ifit-</i> | 'to kill e.o.' |
| RECP | <i>kəβ-</i> | 'to help sb.' | ↔ | <i>kəβ-ə-kəβ-ifit-</i> | 'to help e.o.' |

The diachrony of passive-reciprocal syncretism is not as well-known as the diachrony of the patterns of syncretism discussed in the previous sections. Currently there does not appear to be any concrete evidence for reciprocal voice marking developing a passive function (§7.2.3), and there is only scarce evidence for passive voice marking developing a reciprocal function in a single language, the Highland East Cushitic language Sidaama (§7.4.2). However, it is well-known and well-attested that passive-reciprocal syncretism in many Indo-European languages ultimately has a reflexive origin (§7.1).

4.1.6 Passive-anticausative

Passive-anticausative syncretism is – like reflexive-anticausative syncretism – attested exclusively as type 1 syncretism in the sample. This type of passive-anticausative syncretism is here illustrated for the Tibeto-Burman language Dhimal (EA) in which the “middle morpheme” *-nha* serves as voice marking not only in the passive (6a↔6b) and anticausative voices (6c↔6d), but also in the reflexive voice (e.g. *ce:-* ‘to cut sth.’ ↔ *ce:-nha-* ‘to cut self’, King 2009: 527). According to Khatiwada (2016: 239), the passive use of the suffix has likely evolved under the influence of the Indo-Aryan language Nepali (EA) and can thus be regarded as a recent innovation.

(6) Dhimal (King 2009: 189, 459, 604)

- a. *kalau insa cuma-hi la*
so like.that take-PST MIR
‘And so he took him’.
- b. *hiso cuma-**nha**-hi ede jamal*
whither take-PASS-PST this child
‘Where was this child taken?’

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- c. *me-ta pundhui oŋ-gha*
fire-LOC brain cook-PST.1SG
'I cooked the brain in the fire'.
- d. *tui rem-pha oŋ-nha-hi*
egg be.good-do cook-ANTC-PST
'The egg cooked well'.

Passive-anticausative voice marking is – like reflexive-reciprocal and reciprocal-anticausative voice marking – often syncretic with voice marking in other voices (like in Dhimal), though a few languages seem to feature voice marking exclusively used for the passive and anticausative voices. This is, for example, the case for the Northern Atlantic language Ganja Balanta (AF; e.g. *tɛɛ* 'to spread sth.' ↔ *tɛɛ-l.ɛ* 'to spread' or 'to be spread [by sb.]', Creissels & Biaye 2016: 211) and the language isolate Korean (EA; see Table 7.31 on page 213). Various other examples of passive-anticausative syncretism are provided in §5.1, §5.2.1, and §5.4. In terms of diachrony, it is well-known that reflexive voice marking can develop an anticausative function (§7.1.2) and subsequently a passive function (§7.3.3). However, it is worth noting that a passive origin has been proposed for passive-anticausative syncretism in a few languages (§7.4.3).

4.2 Antipassive syncretism

Antipassive syncretism has received less attention in the typological literature than middle syncretism, although the phenomenon has been acknowledged at least since the late 1960s. For instance, Nedjalkov & Sil'nickij (1969: 40ff.) provide early cross-linguistic examples of syncretism between antipassive (*абсолютивно-потенциальное* "absolute-potential") and anticausative (*декаузативное* "de-causative") voice marking. Furthermore, Polinsky (2017: 314) has strongly argued that "[i]n the majority of languages that mark the antipassive verbally, the affix indexes other categories as well" and often the "antipassive is syncretic with de-transitivizing affixes such as anticausative, reflexive/reciprocal, middle, or passive markers" (see also Heaton 2020: 139). However, observations on antipassive syncretism remain largely implicit and sporadic in the literature, though typological interest in the phenomenon has been on the rise since the turn of the millennium. Interestingly, patterns of antipassive voice syncretism very often form part of complex voice syncretism, and many of the languages attested with antipassive syncretism in the language sample are therefore only mentioned briefly in this chapter before being discussed in more detail in the next chapter. Further-

more, note that all attestations of antipassive syncretism in the language sample represent type 1 syncretism without exception.

4.2.1 Antipassive-reflexive

In a rare explicit typological study of antipassive syncretism, Janic (2010: 158) provides a brief cross-linguistic overview of antipassive-reflexive syncretism in which she argues that “[i]n addition to Australian [i.e. Northern Pama-Nyungan] and Slavic languages, Romance, Cariban, Tacanan, Manding [i.e. Western Mande], South Caucasian [i.e. Kartvelian], and [Northern] Chukotko-Kamchatkan languages can be mentioned among language families in which the reflexive-antipassive polysemy is attested”. However, the antipassive-reflexive syncretism discussed by Janic for the Kartvelian language Laz, the Slavic languages Bulgarian and Polish (all three EA), and the Western Mande language Bambara (AF) is not recognised by this book. Firstly, the purported antipassivity of the prefix *i-* in Laz is uncertain. Janic (and also, e.g., Sansò 2017: 193) argues that the prefix has an antipassive function based on Lacroix’s (2009: 467; 2012: 181f.) discussion of the prefix in relation to the two verbs (*o-*)*gur* and *i-gur*. Lacroix translates these verbal forms ‘to teach sth. to sb.’ and ‘to learn sth.’, respectively, indicating a reflexive rather than antipassive function of the prefix, at least with the verb in question (‘to teach self sth.’). Lacroix (2012: 181) is cautious in his description of *i-* as antipassive himself, saying that it cannot be “analysed as a prototypical antipassive”. Secondly, the antipassives and reflexives in Bulgarian, Polish, and Bambara do not feature verbal voice marking and thus lie beyond the scope of this book. However, antipassive-reflexive syncretism is attested in the Slavic language Russian (§5.4) and the Western Mande language Soninke (e.g. *còró* ‘to cook sth.’ ↔ *còr-é* ‘to cook [sth.]’, *bóorà* ‘to undress sb.’ ↔ *bóor-è* ‘to undress self’, Creissels 2012: 10). The difference in the tone of the suffix *-e* in these examples is not inherent to the voice marking itself.

The remaining cases of antipassive-reflexive syncretism mentioned by Janic (2010) are readily acknowledged here, characterised by the prefix *öt-* in the Cariban language Ye’kwana (SA; see Gildea et al. 2016), by the suffixes *-gali* and *-dji* in the Northern Pama-Nyungan languages Warrungu and Yidiny (AU; see Terrill 1997), by the circumfixes *k(a)-...-ti* and *xa-...-ki* in the Tacanan languages Cavineña and Ese Ejja (SA), and by the suffix *-tku* in the Northern Chukotko-Kamchatkan language Chukchi (EA). Additionally, antipassive-reflexive syncretism has been noted by Vigus (2016: 75ff.) for the language isolate Oksapmin (PN) characterised by the prefix *t-*; and by Sansò (2017: 193ff.) for the Na-Dene language Tlingit (NA) and the Turkic language Tuvan (EA) characterised by the affixes *dzi-/da-* and *-n*,

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respectively. Several of the voice markers mentioned here also have additional voice functions, as further discussed in the following sections.

Ese Ejja, Chukchi, and Oksapmin are also included in the language sample of this book. In addition to these languages, antipassive-reflexive syncretism has been attested in seven other languages of the sample: the Turkic language Tatar, the Permic language Udmurt (both EA), the Gunwinyguan language Nungubuyu, the Mangarrayi-Maran language Mangarrayi (both AU), the Oto-Man-guean language Acazulco Otomí, the Southern Iroquoian language Cherokee (both NA), and the Katukinan language Katukina-Kanamari (SA). [Heaton \(2017: 169\)](#) hints at antipassive-reflexive syncretism in both Queretaro Otomí and Cherokee but does not pursue the matter further, only remarking that the languages have “antipassive uses for middle voice morphemes”. The antipassive-reflexive syncretism in each of the ten languages forms part of complex voice syncretism and are discussed in more detail in the next chapter. Nevertheless, for illustrative purposes, glossed examples demonstrating antipassive-reflexive syncretism in Ese Ejja are provided below in the form of an antipassive voice relation (7a↔7b) and a reflexive voice relation (7c↔7d). As seen in these examples, the circumfix *xa-...-ki* can serve as voice marking in both the antipassive (7b) and reflexive voices (7d). [Janic \(2010: 162\)](#) notes that the circumfix *k(a)-...-ti* in the closely related language Cavineña is similar to the Ese Ejja circumfix *xa-...-ki* in this respect (e.g. *peta* ‘to look at sth.’ ↔ *ka-peta-ti* ‘to look at [sth.]’ or ‘to look at self’, [Guillaume 2008: 268](#)). Note that the circumfix in Ese Ejja also can serve as voice marking in the reciprocal and anticausative voices (see Table 5.7 on page 135).

(7) Ese Ejja ([Vuillermet 2012: 520ff.](#))

- a. *ekwaa motor ishwa-'axa-naje*
1EXCL.ERG motorboat wait-FRUST-PST
‘We vainly waited for the motorboat’.
- b. *jama=ya esea ani-ani, xa-ishwa-ki-ani-ani*
SO=FOC 1INCL.ABS sit-IPFV ANTP-wait-ANTP-IPFV-PRS
‘So we usually sit and wait’.
- c. *eyaya ekwe=bakwa jabe-je*
1SG.ERG 1SG.POSS=child comb-FUT
‘I will comb my child’.
- d. *epona xa-jabe-ki-ani*
woman.ABS REFL-comb-REFL-PRS
‘The woman is combing herself’.

In terms of diachrony, it seems that antipassive-reflexive syncretism generally has a reflexive origin (see §7.1 and §7.1.4), while there is currently no evidence for antipassive voice marking developing a reflexive function in any language.

4.2.2 Antipassive-reciprocal

Antipassive-reciprocal syncretism has received less attention in the literature than the antipassive-reflexive syncretism discussed in the previous section, yet antipassive-reciprocal syncretism actually appears to be slightly more prevalent cross-linguistically (see Table 6.13 on page 159). Nevertheless, previous observations on the phenomenon can be found sporadically in the literature. For instance, Janic (2010) briefly notes the existence of antipassive-reciprocal syncretism in several of the languages mentioned in the previous section, including the Cariban language Ye'kwana, the Tacanan languages Cavineña and Ese Ejja (all three SA), and the Northern Chukotko-Kamchatkan language Chukchi (EA). Likewise, Sansò (2017) attests the syncretism in the Na-Dene language Tlingit (NA) also mentioned in the previous section, as well as in the Surmic language Tirmaga (AF) characterised by the suffix *-ine(n)*. Antipassive-reciprocal syncretism can additionally be observed in a number of Oceanic and Bantu languages (§7.2.4). In addition to Ese Ejja and Chukchi, antipassive-reciprocal syncretism is attested in nine other languages in the language sample, eight of which have already been mentioned in relation to antipassive-reflexive syncretism in the previous section: the Turkic language Tatar, the Permic language Udmurt (both EA), the Gunwinyguan language Nunggubuyu, the Mangarrayi-Maran language Mangarrayi (both AU), the Oto-Manguean language Acazulco Otomí (NA) and the Katukinan language Katukina-Kanamari (SA). The remaining two languages are the Eskimo language Central Alaskan Yupik (NA) and the Kordofanian language Lumun (AF). In these languages antipassive-reciprocal voice marking is mostly syncretic with voice marking in other voices, except in Lumun and Tatar further described here. The antipassive-reciprocal syncretism in the remaining languages is described in more detail in the next chapter.

In Lumun there are two affixes which can serve as voice marking in both the antipassive and reciprocal voices but not in other voices: “(a)rɔ replaces a final or last vowel ɔ or comes after a final or last vowel a”, while “ttɔ is typically attached to stems with a final or last ε” (Smits 2017: 550f.). The former affix has the allomorphs <ar>, <rɔ> and -rɔ, while the latter affix has the allomorphs -ttɔ and <ttɔ>. The antipassive and reciprocal functions of the former affix are here illustrated by an antipassive voice relation (8a↔8b) and a reciprocal voice relation (8c↔8d). In turn, the same functions of the latter affix are exemplified by the

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following verbs: *a.kkwɛ* ‘to beat sb.’ ↔ *á.kkwɛ-tto* ‘to beat [sb.]’, *acce* ‘to lick sb.’ ↔ *acce-tto* ‘to lick e.o.’ (Smits 2017: 551, 559, 734). The tonal differences in the various examples are related to the overall tone system of Lumun and do not form part of the voice marking itself. Smits (2017: 558) explicitly remarks that the Lumun affixes “do not only give an ‘each other’-reading, but also a non-reciprocal reading with a human object that is not (nominally or pronominally) referred to, i.e. an antipassive”. Smits also makes it clear that the verb in (8b) does not have the meaning *‘to take each other’ but denotes a river taking a human semantic participant which cannot be expressed syntactically. The word *tiat-tiak* functions as an adverb indicating intensity or repetition, hence Smits’ idiomatic translation ‘to take many people’s lives’ and the gloss ‘very’.

(8) Lumun (Smits 2017: 505, 573, 558, 742)

- a. *akka.in a-ttámá p-á.ík p-á.nékó-n*
 why CONJ-friend AGR-be.PRS AGR-take.IPFV-1OBJ
 ‘Why, my friend is carrying me’.
- b. *twɛ t-ɔká.t t-ónó ɲəlɪ ɲ-ɔppót ɪ-a.nék<ar>ɔ*
 river AGR-be.PFV AGR-have water AGR-many RESTR-take.IPFV<ANTP>
tiat-tiak
 very~very
 ‘There was a river that had a lot of water and that took many people’s lives’. (lit. ‘[...] that took very’)
- c. *kállán k-ina lón l-ɔppót*
 old.woman AGR-know.IPFV words/things AGR-many
 ‘The old woman knows many things’.
- d. *ɔ-kín t-ína-rɔ acín-ta*
 AGR-3PL AGR-know.IPFV-RECP when-Q
 ‘When will they get to know each other?’

Next, as illustrated in Table 4.5, in Tatar antipassive-reciprocal syncretism is characterised by the suffix *-š*. The suffix is generally associated with reciprocity, but it is widely described as also having a function that qualifies as antipassive (Zinnatullina 1969: 192f.; 1993: 179; Nedjalkov 2007d: 297f.; Burbiel 2018: 490). Most diachronic evidence suggests that antipassive-reciprocal syncretism generally has a reciprocal origin, as in the case of the Tatar suffix *-š* and possibly also the Lumun affix *<ar>/<rɔ>/-rɔ* and various other languages (§7.2.4). By contrast, there is currently no convincing evidence for antipassive voice marking developing a reciprocal function in any language.

Table 4.5: Antipassive-reciprocal syncretism in Tatar

| Tatar (Nedjalkov 2007d: 295, 298, 318) | | | | | |
|--|--------------|------------------|---|----------------|--------------------|
| ANTP | <i>alda-</i> | ‘to deceive sb.’ | ↔ | <i>alda-š-</i> | ‘to deceive [sb.]’ |
| ANTP | <i>jaz-</i> | ‘to write sth.’ | ↔ | <i>jaz-əš-</i> | ‘to write [sth.]’ |
| RECP | <i>üb-</i> | ‘to kiss sb.’ | ↔ | <i>üb-eš-</i> | ‘to kiss e.o.’ |
| RECP | <i>sug-</i> | ‘to hit sb.’ | ↔ | <i>sug-əš-</i> | ‘to hit e.o.’ |

4.2.3 Antipassive-anticausative

Polinsky (2017: 314) argues that voice marking in the antipassive voice in many languages “is syncretic with detransitivizing affixes such as anticausative”, yet typological literature on antipassive-anticausative syncretism remains scarce and mostly consists of sporadic observations. For example, Nedjalkov & Sil’nickij (1969: 40ff.) briefly address antipassive-anticausative syncretism in the Slavic language Russian (§5.4), and the syncretism has been observed by Janic (2010: 167) and Vigus (2016: 76) in the Northern Chukotko-Kamchatkan language Chukchi and the language isolate Oksapmin, respectively. Janic (2010: 165f.) mentions the antipassive-reflexive syncretism of the suffix *-gali* in the Northern Pama-Nyungan language Warrungu (AU), but does not mention its anticausative function (see instead Tsunoda 2011: 523). Additionally, antipassive-anticausative syncretism has been described for the Bantu language Citumbuka (Chavula 2016) and for the Northwest Caucasian language Adyghe (Letuchiy 2007).

In addition to Chukchi and Oksapmin, antipassive-anticausative syncretism has been attested in eight other languages in the sample, six of which have been mentioned in one or both of the previous sections as well: the Turkic language Tatar, the Permic language Udmurt (both EA), the Gunwinyguan language Nunggubuyu (AU), the Oto-Manguean language Acazulco Otomí, the Southern Iroquoian language Cherokee (both NA), and the Tacanan language Ese Ejja (SA). The two remaining languages in which antipassive-anticausative syncretism has been attested are the language isolate Mosetén (SA) and the Surmic language Majang (AF). The latter language is the only language attested with voice marking restricted to the antipassive and anticausative voices. In the remaining languages antipassive-anticausative voice marking is syncretic with voice marking in other voices as well. The syncretism in Majang is described in this section, while the syncretism in the other languages is discussed in the next chapter. It is here worth remarking that the Solomons East Papuan language Savosavo (PN) in the

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language sample has a “detransitivizing” suffix *-za*, one function of which is anticausative (e.g. *pili* ‘to turn sth. around’ ↔ *pili-za* ‘to turn around’, Wegener 2012: 275, 376). Wegener (2012: 171) also describes another function of the suffix which is reminiscent of an antipassive: “[t]he subject is unchanged, only the object is removed” (e.g. *ghogho* ‘to swear at sb.’ ↔ *ghogho-za* ‘to swear’). However, according to Wegener this particular function of *-za* is rare and has hitherto not been attested with any other verb but *ghogho* (p.c., December 4th 2019). Consequently, antipassive-anticausative syncretism is not recognised for Savosavo.

In Majang four suffixes can serve as voice marking in both the antipassive and anticausative voices: “conjoint” *-i* and “disjoint” *-i^L* (with “most a-class verbs”), and “conjoint” *-di* and “disjoint” *-di^L* (with verbs of other language-specific classes, Joswig 2019: 227). The conjoint-disjoint distinction is maintained throughout the verbal system of Majang and is not unique to antipassives and anticausatives. According to Joswig (2019: 132), the distinction is “conditioned by the case and the topicality status of the following NP”. The antipassive use of both conjoint *-di* (glossed CJ) and disjoint *-di^L* (glossed DJ) are illustrated in (9a↔9b and 9a↔9c), and so is the anticausative use of the latter suffix (9d↔9e). Verbs marked by one of the suffixes under discussion “often change their stem tone” (Joswig 2019: 229; cf. 9a↔9b) though not always (cf. 9d↔9e). However, the effects are the same in both the antipassive and anticausative voices (cf., e.g., the antipassive voice relation *bòkòt* ‘to kill sb.’ ↔ *bòkò-di* ‘to kill [sb.]’).

(9) Majang (Joswig 2019: 228, 361)

- a. *kàw-é* *wâr* *è:ʃé*
bite-3SG.DJ dog.SG.ERG cat.SG.ABS
‘A dog bites a cat’.
- b. *káw-di^L* *wâr* *kékàr*
bite-ANTP.DJ dog.SG.NOM again
‘The dog bites again’.
- c. *káw-di* *wâr^L* *kékàr*
bite-ANTP.CJ dog.SG.NOM again
‘A dog bites again’.
- d. *ɲù:l-è* *béá^L*
break-3SG.CJ spear.SG.ABS
‘He broke a spear’.

- e. $\eta\grave{u}:l\text{-}d\acute{i}$: $b\acute{e}a^L$ $n\acute{e}:k\text{-}\acute{e}:=\eta$
 break-ANTC.DJ spear.SG.NOM POSS.3SG-NOM=TOP
 ‘And his spear broke’.

In terms of diachrony, there does not appear to be any evidence for antipassive voice marking developing an anticausative function or for anticausative voice marking developing an antipassive function in any language. However, it appears that antipassive-anticausative syncretism can ultimately have a reflexive origin (§7.1.2 and §7.1.4).

4.2.4 Passive-antipassive

Passive-antipassive syncretism is discussed rather seldom in the literature, yet it is worth noting that the syncretism has a long tradition of study in the Slavic language Russian (e.g. Nedjalkov & Sil’nickij 1969). A rare explicit description of passive-antipassive syncretism in another language but Russian is provided by Zúñiga & Kittilä (2019: 241) who observe the syncretism in the Arauan language Paumari (SA; e.g. *soko-* ‘to wash sth.’ ↔ *soko-a-* ‘to wash [sth.]’ or ‘to be washed [by sb.]’, Chapman & Derbyshire 1991: 298). Zúñiga & Kittilä (2019: 241) further argue that similar syncretism is “rather difficult to find”. Interestingly, Creissels (2012: 10) argues – quite to the contrary – that passive-antipassive (and other patterns of middle and antipassive syncretism) are “extremely common cross-linguistically”, noting that such syncretism is “found in particular in languages belonging to various branches of the Indo-European family (Romance, Slavic, Germanic, etc.), as the result of the evolution of the Proto-Indo-European reflexive pronoun **se*” (§7.1). However, the antipassives in the languages mentioned by Creissels rarely feature verbal voice marking (with a few exceptions, notably Russian mentioned above) and therefore lie outside the scope of this book. However, Creissels (2012: 10; 2016: 54) does provide interesting examples of passive-antipassive syncretism in the Western Mande language Soninke (§4.2.1), but does not otherwise mention other languages featuring passive-antipassive syncretism (e.g. Soninke *ńígá* ‘to eat sth.’ ↔ *ńíg-é* ‘to eat [sth.]’ or ‘to be eaten [by sb.]’).

Dixon (1994: 151f.) and Dixon & Aikhenvald (2000: 11; 2011: 51) argue for antipassive-passive syncretism in certain Australian languages, for instance in the Northern Pama-Nyungan language Kuku-Yalanji characterised by the suffix *-ji* and in the Central Pama-Nyungan language Diyari characterised by the suffix *-tharri* (alternatively *-tadi* or *-thadi*). However, it is not entirely clear from the limited available data on these languages (see Patz 2002 on Kuku-Yalanji and Austin 2013 on Diyari) whether or not the suffixes can have an antipassive function accord-

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ing to the definitions employed in this book (§2.2.2). On the one hand, both Patz (2002: 148) and Austin (2013: 162) explicitly explain that the agent can be left unexpressed in the passive voice in the languages, and the passive function of the suffixes *-ji* and *-tharri* is readily accepted. On the other hand, it is not clear if the same holds true for the semantic participant which is not an agent in the antipassive voice. In the various examples provided by Patz (2002: 151) and Austin (2013: 160) all semantic participants seem equally likely to be expressed syntactically but are marked differently in terms of language-specific case marking. Differences of this kind alone do not qualify as antipassive in this book. Likewise, Janic (2016) argues for passive-antipassive syncretism in the Oceanic languages Mokilese and Kara (both PN) characterised by the suffixes *-ek* and *-ai*, respectively, but as in the case of Kuku-Yalanji and Diyari above, data on these languages are too scarce to determine if the suffixes have an antipassive function according to the definitions employed in this book (see Harrison 1976 on Mokilese and Schlie 1983 on Kara).

Passive-antipassive syncretism is attested in only four languages in the language sample, three of which have already been mentioned in one or more of the previous sections: the Permic language Udmurt, the Turkic language Tatar (both EA), and the language isolate Mosétén (SA). The fourth language is the Algonquian language Arapaho. Passive-antipassive syncretism has already been described for Arapaho in §3.2.1, while it is discussed for the other three languages in the next chapter. Nevertheless, due to the rare nature of the syncretism and the little attention it has received in the literature, it is discussed in turn for each of the languages in this section as well. Moreover, note that the verbal marking in the antipassive-like voice described for the Salishan languages Nxa'amxcin and Musqueam (both NA) in §2.2.2 bears resemblance to the voice marking in the passive voice in these languages. However, as this syncretism does not qualify as proper passive-antipassive syncretism in this book, the syncretism in these two languages is ignored in this section (but see §5.2.1 for a few examples from Musqueam). Vuillermet's (2012: 519) discussion of the circumfix *xa-...-ki* in the Tacanan language Ese Ejja (SA) superficially suggests the existence of passive-antipassive syncretism in this language, as she specifically states that the circumfix can have a "reflexive, reciprocal, antipassive, anticausative, and passive-like" function. On the one hand, in its antipassive function a semantic participant which is not an agent is "typically omitted but may be encoded by an oblique" (Vuillermet 2012: 520), complying with the definitions of antipassives employed in this book (see examples 7a and 7b on page 86). On the other hand, no semantic participant seems to be more or less likely to be omitted in her purported passive

examples. On the contrary, Vuillermet suggests that perhaps a passive reading is simply not possible if a semantic participant is omitted, and also remarks that the purported passive function of the circumfix is fairly rare in the first place (p.c., November 13th 2019). For these reasons, passive-antipassive syncretism is not recognised for Ese Ejja here.

In Mositén passive-antipassive syncretism is characterised by the suffix *-ki*, as seen in the following passive voice relation (10a↔10b) and antipassive voice relation (10c↔10d). This suffix is discussed in more detail later in §5.2.1. Note that the thematic “verbal stem marker” *-(ty)i* in a stem becomes *-(ty)e* when followed by “transitive cross-reference forms which do not trigger vowel harmony” (Sakel 2004: 45), including the third person female object marker *-’* in (10c). The same stem marker changes to *-(ty)a* before certain suffixes, including *-ki* (Sakel 2004: 47, 308). The underlying stem of the verbs in the passive voice relation (10a↔10b) is *jeb-i-* (the third person plural inclusive object marker *-ksi* is another suffix that prompts the preceding verbal stem marker *-i* to change into *-a*). Sakel (2004: 308) explicitly discusses passive-antipassive syncretism in Mositén: “Many verbs can be marked by both the antipassive and the middle. When the forms are similar, only context and common knowledge clarifies the intended meaning of the speaker. Hence, a vermin bites more than getting bitten itself [...], whereas a woman most probably gets bitten more than biting someone herself”. Compare examples (11a) and (11b). Sakel (2004: 306ff.) makes a distinction between the antipassive voice on the one hand, and a “middle (voice)” covering the passive and anticausative voices on the other hand, but explicitly maintains that the voices share the exact same marking.

(10) Mositén (Sakel 2004: 231, 306, 311)

- a. *me’-tya-ksi-’ katyi’ mö’-yä’ jike iji jeb-a-ksi-’*
 SO-TH-3PL.OBJ-F EVID 3F-ADE PST ucumari eat-TH-3PL.OBJ-F
 ‘So it did this to them, the ucumari-monster, it ate them’.
- b. *khin’-cchata’ aj jeb-a-ki-’ phen-yäe*
 now-MOD yet eat-TH-PASS-F woman-1SG.POSS
 ‘Now truly my wife has been eaten’.
- c. *tsin khin’ i-ya’ jäe’mä karij-tye-’ öi texto en Mositén*
 1PL now M-ADE uh hard-TH-F DEM.F text in Mositén
 ‘Here, we now work on this text in Mositén’.
- d. *mi’-ya’ karij-tya-ki jiri-s yomodye’*
 3M-ADE hard-TH-ANTP one-F year
 ‘There I worked for one year’.

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(11) Mosetén (Sakel 2004: 306ff.)

- a. *mö' raem'-ya-ki-' inöj yomo'*
 3F.SG bite-TH-PASS-F moment night
 'She was bitten [by sb.] last night'.
- b. *mö' roro' raem'-ya-ki-'*
 3F.SG vermin bite-TH-ANTP-F
 'This vermin has bitten [sb.]'.

Next, as illustrated in Table 4.6, passive-antipassive syncretism is characterised by the suffix *-ee* in Arapaho, by the suffix *-n* in Tatar, and by the suffix *-šk* in Udmurt. Other examples of passive-antipassive syncretism can be found for Arapaho in Table 3.7 on page 64, for Tatar in Table 5.4 on page 132, and for Udmurt in Table 5.17 on page 145. Evidently and unsurprisingly, passive-antipassive voice marking always appears to be syncretic with marking in other voices, and it has hitherto not been possible to find any language featuring voice marking exclusively used in the passive and antipassive voices.

Table 4.6: Examples of passive-antipassive syncretism

| Arapaho (Cowell & Moss Sr. 2008: 133, 135f., 155f., 229, 276, 280, 307) | | | | |
|---|------------------|-----------------------|----------------------|---------------------------|
| PASS | <i>neh'-</i> | 'to kill sb.' | ↔ <i>neh'-ee-</i> | 'to be killed [by sb.]' |
| PASS | <i>nestoow-</i> | 'to warn sb.' | ↔ <i>nestoow-ee-</i> | 'to get warned [by sb.]' |
| ANTP | <i>otoon-oo-</i> | 'to buy sth.' | ↔ <i>otoon-ee-</i> | 'to buy [sth.]' |
| ANTP | <i>ceit-oo-</i> | 'to visit sb.' | ↔ <i>ceit-ee-</i> | 'to visit [sb.]' |
| Tatar (Ganiev 1997: 198, 201; Burbiel 2018: 473, 485) | | | | |
| PASS | <i>taşla-</i> | 'to throw sth.' | ↔ <i>taşla-n-</i> | 'to be thrown [by sb.]' |
| PASS | <i>ülçä-</i> | 'to measure sth.' | ↔ <i>ülçä-n-</i> | 'to be measured [by sb.]' |
| ANTP | <i>tikşer-</i> | 'to investigate sth.' | ↔ <i>tikşer-en-</i> | 'to investigate [sth.]' |
| ANTP | <i>ezlä-</i> | 'to search for sth.' | ↔ <i>ezlä-n-</i> | 'to search for [sth.]' |
| Udmurt (Perevoščikov 1962: 227f.; Kirillova 2008) | | | | |
| PASS | <i>lešt-</i> | 'to build sth.' | ↔ <i>lešt-išk-</i> | 'to be built [by sb.]' |
| PASS | <i>birj-</i> | 'to elect sb.' | ↔ <i>birj-išk-</i> | 'to be elected [by sb.]' |
| ANTP | <i>pyž-</i> | 'to bake sth.' | ↔ <i>pyž-išk-</i> | 'to bake [sth.]' |
| ANTP | <i>gožja-</i> | 'to write sth.' | ↔ <i>gožja-šk-</i> | 'to write [sth.]' |

It is well-known that passive-antipassive syncretism in Indo-European languages like Russian has a reflexive origin (§7.1). This is partly true for Tatar as well (§5.2.1). By contrast, relatively little is known about the origin of passive-antipassive syncretism in other languages, and it has not been possible to establish the exact diachrony for the syncretism in Mosetén, Arapaho or Udmurt (§5.4). Nevertheless, as argued by Janic (2016: 180), it is very likely that passive-antipassive syncretism can arise from a generalised function that syntactically suppresses any semantic participant. A similar view is shared by Malchukov (2017: 24). The suffix *-ki* in Mosetén illustrated in examples (10b) and (10d) would be a particularly good example of such a generalised function.

4.3 Causative syncretism

Causative-applicative syncretism and causative-passive syncretism are rather well-known and widely attested cross-linguistically. By contrast, other patterns of causative syncretism have received little attention in the past, yet all kinds of causative syncretism are attested in the language sample, as shown in the following sections.

4.3.1 Causative-applicative

Early observations on the cross-linguistic similarities between voice marking in the causative and applicative voices are provided by Nedjalkov & Sil'nickij (1969: 36f.), for example in relation to the affix *r-/n-(...-et/-at)* in the Northern Chukotko-Kamchatkan language Chukchi, the suffix *-se* in Yukaghir (both EA), the suffix *-isa* in the Bantu language Zulu (AF), and the suffix *-kan* in the Malayo-Sumbawan language Indonesian (PN). Chukchi and Yukaghir (more specifically Tundra Yukaghir) both form part of the language sample in this book, while the Bantu and Malayo-Sumbawan genera are represented in the sample by Namibian Fwe and Madurese, respectively. Causative-applicative syncretism is acknowledged for each of these languages. Nedjalkov & Sil'nickij even argue for causative-applicative syncretism in the Penutian language Miwok and the Oregon Coast language Siuslaw (both NA), but it has not been possible to confirm these claims due to lack of data. Shibatani & Pardeshi (2002: 116ff.) observe causative-applicative syncretism in various additional languages, for instance in the Northern Pama-Nyungan language Yidiny (AU) and the Yuman language Hualapai (NA) as well as in the Panoan language Matsés (SA). The Northern Pama-Nyungan genus is not included in the language sample, but the related Western Pama-Nyungan

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genus is represented by the language Mparntwe Arrernte, which also features causative-applicative syncretism (for an overview of causative-applicative syncretism in Australian languages in general, see [Austin 2005](#)). The Yuman and Panoan genera are also part of the sample, represented by the languages Jamul Tiipay and Chácobo, respectively. Causative-applicative syncretism has been attested in the latter language ([Tallman 2018](#)), but not in the former ([Miller 2001](#)). Additional typological discussions of causative-applicative syncretism are provided by [Comrie \(1989: 183\)](#), [Kulikov \(2001: 984; 2010: 394\)](#), [Haspelmath & Müller-Bardey \(2004: 1139\)](#), [Malchukov \(2015: 115f.; 2016: 403ff.; 2017: 6ff., 9ff.\)](#), and recently by [Zúñiga & Kittilä \(2019: 234ff.\)](#) and [Franco \(2019\)](#).

Causative-applicative syncretism in Chukchi, Tundra Yukaghir, Namibian Fwe, Madurese, Mparntwe Arrernte, and Chácobo qualifies more precisely as type 1 syncretism. Causative-applicative voice marking in Chácobo bears partial resemblance to voice marking in the passive voice (see [Table 5.16](#) on page [143](#)), while causative-applicative voice marking in the other languages is restricted to the causative and applicative voices. Causative-applicative type 2 syncretism has been attested in the language isolate Kwaza and the Central Cushitic language Khimt'anga (both AF), and causative-applicative type 3 syncretism has been attested in the language isolate Ainu (EA) and the Sepik Hill language Alamblak (PN). The syncretism has already been exemplified for Kwaza in [Table 3.11](#) on page [69](#) and for Ainu and Alamblak in [Table 3.12](#) on page [71](#). For practical reasons, in this section it is not possible to illustrate causative-applicative syncretism for all these languages (nor for all the other languages in the language sample featuring causative-applicative syncretism), but for illustrative purposes the syncretism is here described for five geographically diverse languages: the North Halmaheran language Ternate (PN), the language isolate Chabu (AF) and the Uto-Aztecan language Pima Bajo (NA) in addition to Mparntwe Arrernte (AU) and Tundra Yukaghir (EA) already mentioned above.

Causative-applicative syncretism in Ternate is here illustrated by a causative voice relation ([12a](#)↔[12b](#)) and an applicative voice relation ([12c](#)↔[12d](#)). As seen in these voice relations, the prefix *si-* serves as voice marking in both the causative voice ([12b](#)) and the applicative voice ([12d](#)). The causative-applicative syncretism in the language is explicitly noted by [Hayami-Allen \(2001: 132\)](#), who remarks that the non-causative use of the prefix adds “an implication that the action is done purposefully, for someone else’s benefit, by someone else’s order, or by an instrument”. In the case of ([12d](#)), the action is done for someone else’s benefit, and in the given context the verb *si-hoi* does not have the meaning *‘to make sb. open sth.’

(12) Ternate (Hayami-Allen 2001: 130ff.)

- a. *ma-ngofa gee hotu*
POSS-child DEM sleep
'The child is sleeping'.
- b. *ma-yaya si-hotu ma-ngofa gee*
POSS-mother CAUS-sleep POSS-child DEM
'The mother put the child to sleep'.
- c. *mina hoi ngara*
3SG.F open door
'She opened the door'.
- d. *kanang mina si-hoi ngara, ngori to=wosa*
a.while.ago 3SG.F APPL-open door 1SG 1SG=enter
'A while ago she opened the door [for me], and I entered'.

As illustrated in Table 4.7, causative-applicative syncretism is characterised by the suffix *-(u)mba* in Chabu, by the suffix *-id/-di* in Pima Bajo, by the suffix *-lhile* in Mparntwe Arrernte, and by the suffix *-re* in Tundra Yukaghir. The applicative use of the suffix *-lhile* in Mparntwe Arrernte is only attested with the two verbs *therre-* and *artne-* presented in the table. Furthermore, note that the Tundra Yukaghir causative-applicative suffix *-re* can be found in the closely related language Kolyma Yukaghir as well (Maslova 2003: 224). In Tundra Yukaghir "[t]he suffix is confined to the semelfactive [aspect]" (Schmalz 2013: 160) and is therefore generally followed by the semelfactive suffix *-j* (cf. *mojaya-re-j-* 'to make sth. soft', *porčaya-re-j-* 'to sprinkle sth.'). However, the semelfactive suffix is not exclusive to the causative and applicative voices (cf., e.g., *tiwaya-* 'to wink' ↔ *tiwaya-j-* 'to wink once') and it is therefore not included in Table 4.7 – except in the case of the verb *köčegej-* in which the semelfactive suffix appears to have become lexicalised (Schmalz 2013: 28, 153). Observe that the voice relations *sal'ya-* ↔ *sal'ya-re-* and *köčegej-* ↔ *köčegej-re-* appear as *sal'yač* ↔ *sal'yarejm* and *köčegeč* ↔ *köčegejrem* in the original source (Schmalz 2013: 160). The final element *-č* results from the affrication (Schmalz 2013: 54) of the semelfactive suffix *-j* and the third person intransitive marker *-j* (i.e. *sal'yač* < **sal'ya-j-j* and *köčegeč* < **köčege-j-j*), while the final *-m* is simply a language-specific third person transitive marker.

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Table 4.7: Examples of causative-applicative syncretism

| Chabu (Kibebe 2015: 276, 279) | | | | |
|---|-----------------|--------------------|------------------------|--------------------------|
| CAUS | <i>ate-</i> | ‘to open’ | ↔ <i>ate-mba-</i> | ‘to open sth.’ |
| CAUS | <i>get-</i> | ‘to move/turn’ | ↔ <i>get-umba-</i> | ‘to move/turn sth.’ |
| APPL | <i>t’ak’o-</i> | ‘to pestle sth.’ | ↔ <i>t’ak’o-mba-</i> | ‘to pestle sth. for sb.’ |
| APPL | <i>adit-</i> | ‘to winnow sth.’ | ↔ <i>adit-umba-</i> | ‘to winnow sth. for sb.’ |
| Pima Bajo (Estrada Fernández 2014: 84, 122, 166, 169, 174, 214) | | | | |
| CAUS | <i>hoin</i> | ‘to rock’ | ↔ <i>hoin-id</i> | ‘to rock sth.’ |
| CAUS | <i>tood</i> | ‘to be frightened’ | ↔ <i>tood-id</i> | ‘to frighten sb.’ |
| APPL | <i>hink</i> | ‘to shout’ | ↔ <i>hink-id</i> | ‘to shout at sb.’ |
| APPL | <i>som</i> | ‘to sew sth.’ | ↔ <i>som-di</i> | ‘to sew sth. for sb.’ |
| Mparntwe Arrernte (Wilkins 1989: 258) | | | | |
| CAUS | <i>tnye-</i> | ‘to fall’ | ↔ <i>tnye-lhile-</i> | ‘to make sth. fall’ |
| CAUS | <i>pwerne-</i> | ‘to split open’ | ↔ <i>pwerne-lhile-</i> | ‘to split sth. open’ |
| APPL | <i>therre-</i> | ‘to laugh’ | ↔ <i>therre-lhile-</i> | ‘to laugh at sb.’ |
| APPL | <i>artne</i> | ‘to cry’ | ↔ <i>artne-lhile-</i> | ‘to cry at sb.’ |
| Tundra Yukaghir (Schmalz 2013: 28, 111, 153f., 160) | | | | |
| CAUS | <i>mojaya-</i> | ‘to get soft’ | ↔ <i>mojaya-re-</i> | ‘to make sth. soft’ |
| CAUS | <i>sal’ya-</i> | ‘to break’ | ↔ <i>sal’ya-re-</i> | ‘to break sth.’ |
| APPL | <i>köčegej-</i> | ‘to gallop’ | ↔ <i>köčegej-re-</i> | ‘to rush/jump at sb.’ |
| APPL | <i>porčaya-</i> | ‘to splash’ | ↔ <i>porčaya-re-</i> | ‘to splash at sth.’ |

Next, as shown in Table 4.8, in Khimt’anga the suffix *-s* serves as voice marking in both the causative and applicative voices, in the latter voice in combination with full reduplication. The schwa in the reduplicated verbal forms is a “linking vowel” (Teshome 2015: xxi). The applicative voices are translated ‘[Guleshe] supported [them] break [the wood]’ and ‘[Aderu] supported [Guleshe] buy [the cow]’ in the original source, respectively (Teshome 2015: 231f.). It is they (i.e. ‘them’) who break the wood in the former example, and Guleshe only supports them in doing so. Likewise, Guleshe buys the cow in the latter example, and Aderu only supports him in doing so. Thus, there is no causer present in neither voice, and the voice relations qualify as applicative (§2.2.4). The applicative use of the suffix *-s* is tellingly called “adjutative” by Teshome. As already mentioned

earlier in this section, the causative-applicative syncretism in Khimt’anga evidently represents type 2 syncretism, while the causative-applicative syncretism illustrated for Chabu, Pima Bajo, Mparntwe Arrernte, and Tundra Yukaghir in Table 4.7 represent type 1 syncretism.

Table 4.8: Causative-applicative syncretism in Khimt’anga

| Khimt’anga (Teshome 2015: 127, 161, 229–237) | | | | | |
|--|---------------|-----------------|---|--|---------------------------------------|
| CAUS | χ^w - | ‘to eat sth.’ | ↔ | χ^w - is - | ‘to make sb. eat sth.’ |
| CAUS | <i>qal</i> - | ‘to see sth.’ | ↔ | <i>qal</i> - s - | ‘to make sb. see sth.’ |
| APPL | <i>kil</i> - | ‘to break sth.’ | ↔ | <i>kil</i> - ə - <i>kil</i> - s - | ‘to break sth. with support from sb.’ |
| APPL | <i>dziβ</i> - | ‘to buy sth.’ | ↔ | <i>dziβ</i> - ə - <i>dziβ</i> - is - | ‘to buy sth. with support from sb.’ |

In many languages there is a close relationship between the causative and applicative voices, and cross-linguistic evidence suggests that causative-applicative syncretism can have either a causative (§7.5.3) or an applicative origin (§7.6.3).

4.3.2 Causative-passive

Causative-passive syncretism has been the subject of much scrutiny in the literature, and observations on the phenomenon date back more than one and a half centuries. As noted by Nedyalkov (1991: 4f.), “[i]t was H. C. von der Gabelentz who in 1861 drew attention to the existence of such causative forms which may fulfil passive function” (see von der Gabelentz 1861: 516–529). Renewed interest in the syncretism in question is in turn generally credited to the aforementioned Nedyalkov’s father Nedjalkov’s (1964) study “on the link between causativity and passivity” (*О связи каузативности и пассивности*), as well as Nedjalkov & Sil’nickij (1969: 38ff.). As observed in these and later studies, causative-passive syncretism appears to be particularly widespread among Altaic or Trans-Eurasian languages, including Korean as well as Mongolic, Tungusic, and Turkic languages (Robbeets 2007). Korean is included in the language sample of this book and so are representatives of the other three genera: the Mongolic language Mongolian, the Tungusic language Kilen, and the Turkic language Tatar. Causative-passive syncretism is attested in the first three languages, but not in Tatar (Zinnatullina 1993; Burbiel 2018). However, causative-passive syncretism can be found in other Turkic languages (e.g. Old Turkic *bak*- ‘to look at

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sth.' ↔ *bak-it-* 'to make sb. look at sth.' and *kov-* 'to follow/chase sb.' ↔ *kov-it-* 'to be chased [by sb.]', Robbeets 2015: 291f.). In fact, Robbeets (2007: 178ff.; 2015: 290ff.) reconstructs a causative-passive suffix for Proto-Turkic, **-ti*. The reconstructed suffix is reflected by the suffix *-t* in Tatar, which has a causative function but not a passive function. Robbeets (2007: 165f.; 2015: 276f.) also argues for causative-passive syncretism in Proto-Japonic characterised by the suffix **-ta* reflected by Old Japanese *-t*, but provides no convincing examples of its purported passive use, and causative-passive syncretism is therefore not recognised for this language here. The Japonic genus is represented in the language sample by the language Irabu (EA), which does not feature causative-passive syncretism either (Shimoji 2008).

Kulikov (2001: 894; 2010: 394) remarks that causative-passive syncretism has additionally been attested in “some West African languages (Songhai, Dogon), Bella Coola (Amerindian), and some other languages of the world”, but provides no examples. In the language sample of this book the Songhai and Dogon genera are represented by the languages Humburi Senni and Yanda Dom, which do indeed feature causative-passive syncretism. Neither the language Bella Coola nor the genus of the same name is included in the sample, but two related languages are, the Central Salish language Musqueam and the Interior Salish language Nxa'amxcin (both NA). However, these languages do not feature causative-passive syncretism (Suttles 2004; Willett 2003). Finally, causative-passive syncretism has also been discussed to various extents by Shibatani (1985: 840), Haspelmath (1990: 46ff.), Knott (1995), Dixon (2000: 31), and Malchukov (2016: 400ff.).

Causative-passive syncretism in Mongolian, Kilen, Korean, Humburi Senni, and Yanda Dom qualifies as type 1 syncretism. Causative-passive voice marking in Korean is syncretic with voice marking in the anticausative voice (§7.5.1), whereas causative-passive voice marking in the other languages is restricted to the causative and passive voices. The syncretism in each of these languages is illustrated in this section alongside examples of causative-passive type 1 syncretism in the Mixe-Zoque language Ayutla Mixe (NA) and examples of causative-passive type 2 syncretism in the Finnic language Finnish (EA) and the Lowland East Cushitic language Konso (AF). Causative-passive type 1 syncretism has already been illustrated for the North Omotic language Wolaytta (AF) in Table 3.9 on page 66 and for San Francisco del Mar Huave (NA) in Table 3.10 on page 67, while causative-passive type 2 syncretism has been exemplified for the Kxa language ṪHḏā (AF) in Table 3.11 on page 69. Additional examples are given in the next chapter.

For glossed examples of causative-passive syncretism, consider the following causative voice relation (13a↔13b) and a passive voice relation (13c↔13d) in Ayutla Mixe. As shown in these voice relations, the prefix *ak-* serves as voice marking in both the causative (13b) and passive voices (13d). Romero-Méndez (2008: 370) notes that “[t]he same phenomenon is observed in other Mixe languages”, including Olutec (Zavala 2000).

- (13) Ayutla Mixe (Romero-Méndez 2008: 482, 495)
- a. *ta atäm n-jëntsën y-ook-yë’n*
DEM.MED 1PL.INCL 1POSS-chief 3SBJ-die-1.INCL
‘[...] then our leader died’.
 - b. *pës n-ak-ook-ë’m yë’ë tsä’äny*
DISC 1A-CAUS-die-1PL.EXCL DEM.M snake
‘We have to kill the snake’.
 - c. *ja’a pää’äy ojts w<y>ä’äke’ek-y*
DEM.DIST savage PST take<3.OBJ.INV>-ASP
‘The savage people took her there’.
 - d. *ps jam ojts y-ak-wä’äke’ek-y*
DISC DEM.DIST PST 3SG-PASS-take-ASP
‘She was taken there’.

Causative-passive syncretism in the four Trans-Eurasian languages Mongolian, Kilen, Korean, and Finnish is illustrated in Table 4.9. The syncretism is characterised by the suffix *-uul* in Mongolian, by the suffix *-wu* in Kilen, and by the suffix *-(C)i* in Korean. In Finnish the syncretism is characterised by the suffix *-ta/-tä* which is always accompanied by the suffix *-an/-än* in the passive voice but not in the causative voice. The allomorphs of this Finnish suffix are conditioned by vowel harmony. Next, causative-passive syncretism in the three African languages Yanda Dom, Humburi Senni, and Konso is illustrated in Table 4.10. The syncretism is only marginally productive in Yanda Dom and Humburi Senni. In Yanda Dom the suffix *-mé* serves as voice marking in both the causative and passive voices, though only three verbs of perception are attested in the latter voice. Heath (2017b: 237) notes that the passive sense of the suffix “can be semelfactive, e.g. ‘was seen (once)’, as well as habitual”, and also remarks that the suffix can have a sense of potentiality depending on context (e.g. ‘to be findable’). Humburi Senni is rather similar to Yanda Dom in this respect and features the suffix *-(y)éyndí* that serves as voice marking in both the causative and passive voices. Heath (2014: 382) calls the latter voice “potential passive” and observes that “[t]he

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most common sense of the potential passive is ‘be VERB-able’ or ‘be habitually VERB-ed’”. However, he additionally remarks that “a more general passive function is also possible” (Heath 2014: 382). In turn, in Konso the suffix *-ad* serves as voice marking in the passive voice, and also forms part of suffix *-accii* (< *-ad* + *-ciis/-siis*) serving as voice marking in the causative voice (Ongaye 2013: 139).

Table 4.9: Examples of causative-passive syncretism (I)

| Mongolian (Tserenpil & Kullmann 2008: 123; Janhunen 2012: 249f.) | | | | |
|--|-----------------|-----------------|---|--|
| CAUS | <i>asg-</i> | ‘to empty sth.’ | ↔ | <i>asg-uul-</i> ‘to make/let sb. empty sth.’ |
| CAUS | <i>id-</i> | ‘to eat sth.’ | ↔ | <i>id-uul-</i> ‘to make/let sb. eat sth.’ |
| PASS | <i>id-</i> | ‘to eat sth.’ | ↔ | <i>id-uul-</i> ‘to be eaten [by sb.]’ |
| PASS | <i>xaz-</i> | ‘to bite sth.’ | ↔ | <i>xaz-uul-</i> ‘to be bitten [by sb.]’ |
| Kilen (Zhang 2013: 59, 116f., 173, 188f.) | | | | |
| CAUS | <i>ənə</i> | ‘to go’ | ↔ | <i>ənə-wu</i> ‘to make sb. go’ |
| CAUS | <i>tanta</i> | ‘to hit sth.’ | ↔ | <i>tanta-wu</i> ‘to make sb. hit sb.’ |
| PASS | <i>tanta</i> | ‘to hit sth.’ | ↔ | <i>tanta-wu</i> ‘to be hit [by sb.]’ |
| PASS | <i>dzəfə</i> | ‘to eat’ | ↔ | <i>dzəfə-wu</i> ‘to be eaten [by sb.]’ |
| Korean (Sohn 1999: 369, 375) | | | | |
| CAUS | <i>wus</i> | ‘to laugh’ | ↔ | <i>wus-ki</i> ‘to make sb. laugh’ |
| CAUS | <i>kwul</i> | ‘to roll’ | ↔ | <i>kwul-li</i> ‘to make sth. roll’ |
| PASS | <i>ccoch</i> | ‘to chase sb.’ | ↔ | <i>ccoch-ki</i> ‘to be chased [by sb.]’ |
| PASS | <i>kkul</i> | ‘to pull sth.’ | ↔ | <i>kkul-li</i> ‘to be pulled [by sb.]’ |
| Finnish (personal knowledge) | | | | |
| CAUS | <i>alene-</i> | ‘to descend’ | ↔ | <i>alen-ta-</i> ‘to lower sth.’ |
| CAUS | <i>heikene-</i> | ‘to weaken’ | ↔ | <i>heiken-tä-</i> ‘to weaken sth.’ |
| PASS | <i>lue-</i> | ‘to read sth.’ | ↔ | <i>lue-ta-an</i> ‘to be read [by sb.]’ |
| PASS | <i>iske-</i> | ‘to hit sth.’ | ↔ | <i>iske-tä-än</i> ‘to be hit [by sb.]’ |

It is well-known that causative-passive syncretism commonly has a causative origin, as in the case of the four Trans-Eurasian languages included in Table 4.9 (§7.5.2). By contrast, it has hitherto not been possible to find evidence for passive voice marking developing a causative function in any language.

Table 4.10: Examples of causative-passive syncretism (II)

| Yanda Dom (Heath 2017b: 227, 237) | | | | | |
|--------------------------------------|--------------|--------------------|---|--------------------|-------------------------------|
| CAUS | <i>jé</i> | ‘to dance’ | ↔ | <i>jé-mé</i> | ‘to make sb. dance’ |
| CAUS | <i>yé</i> | ‘to weep’ | ↔ | <i>yé-mé</i> | ‘to make sb. weep’ |
| CAUS | <i>nó</i> | ‘to hear sth.’ | ↔ | <i>nó-mé</i> | ‘to make sb. hear sth.’ |
| PASS | <i>nó</i> | ‘to hear sth.’ | ↔ | <i>nó-mé</i> | ‘to be heard [by sb.]’ |
| PASS | <i>témbé</i> | ‘to find sth.’ | ↔ | <i>témbé-mé</i> | ‘to be found [by sb.]’ |
| PASS | <i>wó</i> | ‘to see sth.’ | ↔ | <i>wó-mé</i> | ‘to be seen [by sb.]’ |
| Humburi Senni (Heath 2014: 280, 283) | | | | | |
| CAUS | <i>tó:</i> | ‘to become full’ | ↔ | <i>tó:-yéyndí</i> | ‘to fill sth.’ |
| CAUS | <i>zé:</i> | ‘to swear’ | ↔ | <i>zé:-yéyndí</i> | ‘to make sb. swear’ |
| PASS | <i>nó:</i> | ‘to give sb. sth.’ | ↔ | <i>nó:-yéyndí</i> | ‘to be given [by sb. to sb.]’ |
| PASS | <i>dí:</i> | ‘to see sth.’ | ↔ | <i>dí:-yéyndí</i> | ‘to be seen [by sb.]’ |
| Konso (Ongaye 2013: 143ff., 222) | | | | | |
| CAUS | <i>ǵot-</i> | ‘to dig sth.’ | ↔ | <i>ǵot-acciiis</i> | ‘to make sb. dig sth.’ |
| CAUS | <i>mur-</i> | ‘to cut sth.’ | ↔ | <i>mur-acciiis</i> | ‘to make sb. cut sth.’ |
| PASS | <i>kup-</i> | ‘to burn sth.’ | ↔ | <i>kup-ad-</i> | ‘to be burned [by sb.]’ |
| PASS | <i>χor-</i> | ‘to fine sb.’ | ↔ | <i>χor-ad-</i> | ‘to be fined [by sb.]’ |

4.3.3 Causative-antipassive

Discussions of causative-antipassive syncretism are considerably more scarce in the typological literature than those of causative-passive syncretism and mostly consist of sporadic observations on a few languages. For instance, [Creissels & Nougulier-Voisin \(2008: 295ff.\)](#) describe causative-antipassive syncretism for the Atlantic language Wolof (e.g. *génn* ‘to go out’ ↔ *génn-e* ‘to take sth. out’, i.e. ‘to make sth. go out’ and *màtt* ‘to bite sth.’ ↔ *màtt-e* ‘to bite [sth.]’), and [Creissels & Diagne \(2013: 20\)](#) describe similar syncretism for the Western Mande language Soninke (e.g. *bònò* ‘to become spoilt’ ↔ *bònò-ndi* ‘to damage sth.’, i.e. ‘to make sth. become spoilt’ ↔ *bònò-ndi-ndi* ‘to damage [sth.]’). Both languages are spoken in Africa. Outside of Africa, [Juárez & González \(2017: 240, 244f.\)](#) have described causative-antipassive syncretism for the South Guaicuruan language Mocoví spoken in South America (e.g. *[r-]eda* ‘to move’ ↔ *[y-]ida-gan* ‘to move sth.’ and *-ta-* ‘to sniff sth.’ ↔ *-ta-gan* ‘to sniff [sth.]’). Observe that the third person agreement

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markers *r-* and *y-* are here included in square brackets only to show how they affect the following vowel phonologically. Neither the vowel variation nor the agreement markers themselves are part of the voice marking in the language.

The Atlantic, Western Mande, and South Guaicuruan genera are represented in the language sample by the languages Ganja Balanta, Jalkunan, and Pilagá, respectively. However, causative-antipassive syncretism is only attested in Ganja Balanta. In addition to this language, only one other language in the sample features causative-antipassive syncretism, the Timor-Alor-Pantar language Makalero (PN). The syncretism in Makalero has already been exemplified in Table 3.6 on page 63, while the syncretism in Ganja Balanta has been illustrated in Table 3.10 on page 67. Nevertheless, due to the low prevalence of causative-antipassive syncretism cross-linguistically, it is discussed in this section as well. Causative-antipassive syncretism in Makalero is more specifically of type 1a and characterised by the suffix *-ini* as seen in the following causative voice relation (14a↔14b) and the antipassive voice relation (14c↔14d). Huber (2011: 340) explicitly notes that the suffix in question “can function to either add or remove a participant to or from the sentence”. In the causative voice the suffix is obligatorily accompanied by the auxiliary verb *mei* (14b) which has the meaning ‘to take’ “if used as a lexical verb” (Huber 2011: 203). However, as this verb does not constitute verbal marking, it is not considered to form part of the voice marking in the causative voice (§3.2.1). Furthermore, note that from a language-specific perspective Huber (2011: 340) argues that the causer and causee in the causative voice stand in separate clauses as the result of the inclusion of the auxiliary verb. Nevertheless, the use of the verb appears to be fully grammaticalised (with no indication of its original lexical meaning), and the causative example (14b) is therefore treated as a single clause from a cross-linguistic perspective.

(14) Makalero (Huber 2011: 299, 340f.)

- a. *kopu ere hai da'al, ira hai mu'a-isa*
 glass 1DEM NSIT break water NSIT ground-go.down
 ‘This glass broke and the water spilled’.
- b. *mata ka'u=ni kopu ere mei=ni da'al-ini*
 child small=CTR glass 1DEM take=LINK break-CAUS
 ‘The child broke the glass’.
- c. *ani sedang heru=ua ei=ua so'ot ere heru*
 1SG PROG cloth=REL 2S=REL want 1DEM weave
 ‘I’m weaving the cloth that you asked for’.

- d. *tufuraa k-asu=ni uere=ni omar-ik'a lopu-ika'*
 woman 2.UND-for=CTR 2DEM=CTR stilt.house-up.in house-up.in
isa-ini tina-ini heru-ini
 bake-ANTP cook-ANTP weave-ANTP
 '(Work) for the women is to stay at home, bake, cook, weave, [...]'

Causative-antipassive syncretism in Ganja Balanta qualifies as type 1b syncretism, and is characterised by the suffix *-t* as seen in Table 4.11. The verbs in the causative and antipassive voices differ in terms of verb class as indicated by the different infinitive vowels: verbs in the causative voice belong to a so-called class A or C, while verbs in the antipassive voice belong to class B (Creissels & Biaye 2016: 142ff., 208, 211). Furthermore, it can be noted that the suffix *-t* seemingly has the allomorph *-Vt* in the causative voice (e.g. *yisim* 'to sneeze' ↔ *yisim-it* 'to make sb. sneeze', Creissels & Biaye 2016: 209) but not in the antipassive voice. Finally, observe that Creissels & Biaye only have attested the antipassive use of the suffix *-t* with four verb stems in Ganja Balanta (the other two verbs are given in Table 3.10 on page 67).

Table 4.11: Causative-antipassive syncretism in Ganja Balanta

| Ganja Balanta (Creissels & Biaye 2016: 209ff.) | | | | | |
|--|-------------|--------------------|---|-----------------|-----------------------------|
| CAUS | <i>sug</i> | 'to drink sth.' | ↔ | <i>sug-t.ɪ</i> | 'to make sb. drink sth.' |
| CAUS | <i>θɔɔb</i> | 'to be(come) slim' | ↔ | <i>θɔɔb-t.ɪ</i> | 'to make sb. be(come) slim' |
| ANTP | <i>lɔt</i> | 'to cook sth.' | ↔ | <i>lɔt-t.ɛ</i> | 'to cook [sth.]' |
| ANTP | <i>sɔg</i> | 'to sew/sow sth.' | ↔ | <i>sɔg-t.ɛ</i> | 'to sew/sow [sth.]' |

In terms of diachrony, little is known about the emergence of causative-antipassive syncretism, and there is currently no evidence for a development from causative to antipassive nor from antipassive to causative in any language. However, it can here be mentioned that Creissels (2015: 18) has proposed that the causative and antipassive functions of the suffix *-ndi* in Soninke mentioned at the beginning of this section "result from the grammaticalization of the same Proto-West-Mande verb (**tin* 'do') in two different constructions: a causative periphrasis and an antipassive periphrasis". The same appears to be true for the Makalero causative-antipassive suffix *-ini* which relates to the verb *kini* 'to do/make' (Huber 2011: 128). Nevertheless, the more specific bridging context as well as the order in which the causative and antipassive functions of the two suffixes evolved remain obscure.

4.3.4 Causative-reflexive

Previous research on causative-reflexive appears to be very scant or altogether non-existent, as it has not been possible to find a single discussion of the phenomenon in the literature. Pederson (1991) investigates “universals in the syncretism of reflexive and causative constructions”, but treats reflexive and causative syncretism separately and does not address causative-reflexive syncretism. The syncretism in question has been attested in only two languages in the sample, and the lack of literature concerning the phenomenon is therefore not surprising. These two languages are the North Omotic language Wolaytta (AF) and the Northern Chukotko-Kamchatkan language Chukchi (EA), and in both languages causative-reflexive voice marking is syncretic with marking in other voices as well. It has hitherto not been possible to find any language featuring voice marking restricted exclusively to the causative and reflexive voices. Both Wolaytta and Chukchi are treated in more detail in the next chapter (see §5.3.1 and §5.3.2, respectively), but due to the rare nature of causative-reflexive syncretism and for the sake of illustration in this section, the syncretism in the languages is briefly exemplified here. Accordingly, causative-reflexive syncretism in Wolaytta is here illustrated by a causative voice relation (15a↔15b) and a passive voice relation (15c↔15d). As seen in these examples, the suffix *-ett* serves as voice marking in the causative voice (15b) and the suffix *-ett/-étt* serves as voice marking in the passive voice (15d).

(15) Wolaytta (Wakasa 2008: 706, 797, 1029, 1072)

- a. *hageeti 7ubb-ái-kka maLL-óosona*
these all-NOM.M.SG-too be.tasty-IPFV.3PL
‘These [bulbs of garlic, cabbages, onions] are all tasty’.
- b. *zaar-ídi 7á wáát-i maLL-ett-úuteetii?*
return-CVB.3PL it.ABS do.what-CVB.2PL be.tasty-CAUS-Q
‘[...] how will you make it tasty again?’
- c. *7alb-é-nné tiit-ú banta-7aaw-áa bonc-óosona*
NAME-NOM-and NAME-NOM own-father-ABS.M.SG respect-IPFV.3PL
‘Albe and Tito respect their father’.
- d. *bonc-étt-a*
respect-REFL-OPT.2SG
‘Respect yourself!’

By comparison, as Table 4.12 shows, in Chukchi the suffix *-et* serves as voice marking in both the reflexive and causative voices, in the latter voice in combination with the prefix *r-/n-*. Evidently, Wolaytta features causative-reflexive type 1b syncretism, and Chukchi features causative-reflexive type 2 syncretism.

Table 4.12: Causative-reflexive syncretism in Chukchi

| Chukchi (Dunn 1999: 72, 206, 256; Kurebito 2012: 186) | | | | | |
|---|-------------|----------------|---|----------------------|------------------|
| CAUS | <i>qit</i> | ‘to freeze’ | ↔ | <i>r-/n-ə-qit-et</i> | ‘to freeze sth.’ |
| CAUS | <i>lw</i> | ‘to burn’ | ↔ | <i>r-/n-ə-lw-et</i> | ‘to burn sth.’ |
| REFL | <i>ejup</i> | ‘to prick sb.’ | ↔ | <i>ejup-et</i> | ‘to prick self’ |
| REFL | <i>qetw</i> | ‘to stab sb.’ | ↔ | <i>qetw-et</i> | ‘to stab self’ |

It is difficult to draw any conclusions about the diachrony of causative-reflexive syncretism based on data from Wolaytta and Chukchi alone. The diachrony of the Wolaytta suffix *-ett* (and *-étt*) is unknown, and the functions of the Chukchi suffix *-et* is described as having “unpredictable semantic or syntactic features” by Dunn (1999: 243) as further discussed in §4.4.5. Thus, the emergence and development of causative-reflexive syncretism remains obscure for the time being.

4.3.5 Causative-reciprocal

Causative-reciprocal syncretism has been described for a few languages in the literature, most notably for the Arawakan language Yine (or Piro; SA) in which the syncretism is characterised by the suffix *-kaka* (Nedjalkov & Sil’nickij 1969: 38; Kulikov & Nedjalkov 1992; Kulikov 2001: 894; Nedjalkov 2007d: 292). Nedjalkov (2007d: 286) also observes causative-reciprocal syncretism in the related language Wayuu (or Guajiro) characterised by the suffix *-hira*. Unfortunately, however, it has not been possible to obtain concrete examples of the latter suffix, and the purported syncretism in Wayuu can therefore not be confirmed here. Kulikov (2001: 894) argues that “[t]his rare type of syncretism” also occurs in some Austronesian languages, including the Oceanic languages Nakanai and Tangga (both PN), but provides no examples (see instead Johnston 1978: 181f. and Nedjalkov 2007d: 286). Causative-reciprocal syncretism is also found in, for example, the Nilotic language Bari characterised by the prefix *tə-* (Nedjalkov 2007d: 285ff.) and in the Northern Atlantic language Wolof (both AF) characterised by the suffix *-e*, though the reciprocal function of the suffix *-e* in the Wolof is “not very productive” (Creissels & Nougier-Voisin 2008: 298).

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The language sample of this book includes Yine and also covers the Oceanic, Nilotic, and Northern Atlantic genera, represented by the languages Cheke Holo, Luwo, and Ganja Balanta, respectively. While causative-reciprocal syncretism is indeed attested in Yine, none of the three other languages features the syncretism in question. However, four other languages in the sample do feature causative-reciprocal syncretism: the North Omotic language Wolaytta (AF), the Northwest Sumatra-Barrier Islands language Gayo (PN), the Dizoid language Sheko (AF), and the language isolate Nivkh (EA). The causative-reciprocal syncretism in Yine and Wolaytta qualifies as type 1 syncretism, in Gayo and Sheko as type 2 syncretism, and in Nivkh as type 3 syncretism. The syncretism in the latter language has already been illustrated in Table 3.12 on page 71, while the syncretism in Wolaytta is discussed in §5.3.1. Causative-reciprocal syncretism in the remaining languages is illustrated in this section, starting with the following causative voice relation (16a↔16b) and reciprocal voice relation (16c↔16d) in Yine. In this language the causative-reciprocal marker *-kaka* bears some resemblance to the passive marker *-ka* (see Table 5.14 on page 141).

(16) Yine (Hanson 2010: 33, 191, 269f.)

- a. *r-hasika-na pimri-ne*
3-run-3PL other-PL
‘The others ran off’.
- b. *wale hasika-kaka-na-na*
3SG.M run-CAUS-CMPV-3PL
‘He made them run’.
- c. *t-hiylaka-hima-ta-li*
3SG.F-hit-QUOT-TH-3SG.M
‘She hit it, reportedly’.
- d. *r-hiylaka-kaka-na-na siwa-yma hawa mhenokli-ne-yma*
3-hit-RECP-CMPV-3PL anteater-COM and jaguar-PL-COM
‘They fought each other, the anteater and the jaguars’.

Next, as illustrated in Table 4.13, in Sheko the reciprocal voice is characterised by the suffix *-s-ñ* which is composed of the causative suffix *-s* and the suffix *-ñ* which can, for instance, have an anticausative function on its own (e.g. *gàz* ‘to snap sth.’ ↔ *gàz-ñ* ‘to snap’, Hellenthal 2010: 284). The causative suffix is generally “coupled with L tone on the verb stem and vowel shortening (if the root has a long vowel)” (Hellenthal 2010: 373). Hellenthal (2010: 395) explicitly

addresses the causative-passive syncretism in Sheko, and comments that syncretism of this kind is uncommon in other Omotic languages. Next, as also illustrated in Table 4.13, in Gayo the suffix *-nen* serves as voice marking in both the causative and reciprocal voices, in the latter voice accompanied by the prefix *bersi-* or, alternatively, by the prefix *be(r)-* plus reduplication (e.g. *tulak* ‘to push sb.’ ↔ *be-te tulak-an* ‘to push e.o.’, Eades 2005: 154). The suffix in question has four allomorphs: *-nan* found on verb stems ending in the vowel /a/, *-nen* on verb stems ending in any other vowel, *-an* on consonant-final verb stems with the vowel /a/ in the last syllable, and *-en* on consonant-final verb stems with any other vowel in the last syllable. Eades (2005: 39f.) adds that “[t]he forms *-nen* and *-nan* are often reduced to *-n*, which is in free variation with the longer forms”. Being a typical western Austronesian language, Gayo features three so-called “voice” or “orientation” affixes (e.g. undergoer orientation *i-*, actor orientation *mun-*, and unintentional undergoer *ter-*). However, Eades (2005: 167) explicitly argues that the phenomenon of voice in Gayo “contrasts with primarily syntactically motivated explanations for voice” and that “voice affixation signals the semantic macrorole of the subject argument in a clause that involves two semantic participants”. In other words, the function of “voice” in Gayo is dependent primarily on discourse continuity, and is not considered voice marking in relation to the causative and reciprocal voices by Eades (2005: 162f., 186ff.) and this book (§2.2.1). Thus, the various Gayo verbs in Table 4.13 are given without any orientation affixes.

Table 4.13: Causative-reciprocal syncretism

| Sheko (Hellenthal 2010: 195, 374, 394, 433) | | | | | |
|---|----------------|--------------------|---|-------------------------|----------------------|
| CAUS | <i>sár-</i> | ‘to be hot’ | ↔ | <i>sar-s</i> | ‘to heat sth.’ |
| CAUS | <i>door-</i> | ‘to run’ | ↔ | <i>dor-s</i> | ‘to make sb. run’ |
| RECP | <i>tùfkù-</i> | ‘to bump into sb.’ | ↔ | <i>tùfkù-s-n̄</i> | ‘to bump into e.o.’ |
| RECP | <i>t’ùùs-</i> | ‘to know sb.’ | ↔ | <i>t’ùs-ùs-n̄</i> | ‘to know e.o.’ |
| Gayo (Eades 2005: 14, 39, 124, 162, 171, 187f.) | | | | | |
| CAUS | <i>tangkuh</i> | ‘to go out’ | ↔ | <i>tangkuh-n</i> | ‘to make sb. go out’ |
| CAUS | <i>ayo</i> | ‘to enter’ | ↔ | <i>ayo-n(en)</i> | ‘to make sb. enter’ |
| RECP | <i>dere</i> | ‘to hit sb.’ | ↔ | <i>bersi-dere-n(en)</i> | ‘to hit e.o.’ |
| RECP | <i>tipak</i> | ‘to kick sb.’ | ↔ | <i>bersi-tipak-an</i> | ‘to kick e.o.’ |

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The diachrony of causative-reciprocal syncretism is not well-known, but there is some cross-linguistic evidence for a reciprocal origin in some languages, in part facilitated by comitativity (§7.2.5). By contrast, currently there does not appear to be any evidence for causative voice marking developing a reciprocal function in any language. It can be mentioned here that the causative-reciprocal syncretism in the Oceanic language Nakanai mentioned at the beginning of this section seems to be the result of coincidental phonological convergence of Proto-Oceanic reciprocal **pari-* and causative **paka-* following the loss of the phonemes **R* and **k* in the language (e.g. *va-ubi* ‘to shoot e.o.’ and *va-lolo* ‘to make sb. hear sth.’, Nedjalkov 2007d: 286). The diachrony of **pari-* is discussed in more detail in §7.2.1, §7.2.2, and §7.2.4.

4.3.6 Causative-anticausative

Discussions of causative-anticausative syncretism in the typological literature are difficult to come by. Zúñiga & Kittilä (2019: 244) state that they “have found only one clear case of it in the literature”, in the language isolate Ainu (EA), and further argue that “[t]he causative-anticausative syncretism is especially striking, given the semantic and syntactic disparity of the two effects”. Nevertheless, it is worth noting that causative-anticausative syncretism has in fact been observed in at least one other language in the literature, Japanese (EA). For instance, Comrie (2006: 310) remarks that “[o]ne of the striking characteristics of inchoative-causative pairs in Japanese is that the suffix *-e* is used with some verbs to mark the inchoative, with other verbs to mark the causative”, and goes on to provide two “[c]omprehensive lists of 36 pairs where *-e* marks the anticausative and 57 where it marks the causative” (see also Jacobsen 1982: 197ff.). The “inchoative” mentioned by Comrie is compatible with the anticausative voice in this book. Some of the 93 verbal pairs are also listed by Haspelmath (1993: 116). Consider for example the following voice relations in Japanese (in the original source these verbs are followed by the non-past suffix *-(r)u* which has here been omitted for clarity): *sizum-* ‘to sink’ ↔ *sizum-e-* ‘to sink sth.’ and *or-* ‘to break sth.’ ↔ *or-e-* ‘to break’ (Comrie 2006: 311f.). Ainu is included in the language sample of this book while the Japonic genus is represented by the language Irabu which – unlike Japanese – does not feature causative-anticausative syncretism. In addition to Ainu, causative-anticausative syncretism has been attested in four other languages in the sample: the language isolate Korean, the Ugric language Northern Mansi (both EA), the language isolate Kutenai (NA), and the Northern Chukotko-Kamchatkan language Chukchi (EA). The syncretism qualifies as type 2 syncretism in Chukchi, and as type 1 syncretism in the other languages.

Causative-anticausative syncretism has already been illustrated for Northern Mansi in Table 3.7 on page 64 and for Kutenai in §3.2.3, while it is discussed for Korean in §5.3.1 and for Chukchi in §5.3.2. However, due to the little attention causative-anticausative syncretism has received in the literature, it is briefly exemplified for each of the languages here in this section. Glossed examples of causative-anticausative type 2 syncretism in Chukchi are provided below in the form of a causative voice relation (17a↔17b) and an anticausative voice relation (17c↔17d). The examples show that the suffix *-et* serves as voice marking in both the anticausative (17d) and causative voices, in the latter in combination with the prefix *r-/n-* (17b). It is worth noting, however, that the anticausative use of the suffix is only marginally productive in the language, attested with just three verbs (Kurebito 2012: 187).

(17) Chukchi (Stenin 2017: 6; Kurebito 2012: 187)

- a. *qeryəsʔ-ə-n* *sinit went-ə-γʔ-i*
 window-EP-ABS.SG self open-EP-TH-3SG.SBJ
 ‘A window opened itself’.
- b. *γəm-nan qeryəsʔ-ə-n* *t-ə-n-went-et-γʔe-n*
 1SG-ERG window-EP-ABS.SG 1SG-EP-CAUS-open-CAUS-TH-3SG.OBJ
 ‘I opened the window’.
- c. *t-ejp-γʔe-n* *qeryəsʔ-ə-n*
 1SG-close-TH-3SG.OBJ window-EP-ABS.SG
 ‘I closed the window’.
- d. *qeryəsʔ-ə-n* *ejp-et-γʔ-i*
 window-EP-ABS.SG close-ANTC-TH-3SG.SBJ
 ‘The window closed’.

As illustrated in Table 4.14, causative-anticausative type 1a syncretism is characterised by the suffix *-(C)i* in Korean, by the suffix *-ke* in Ainu, and by the suffix *-l* in Northern Mansi. In the two latter languages the illustrated anticausative voices are defined according to an equipollent causative-anticausative voice relation, and the marking in the voices is thus in variation with verbal marking in the contrasting causative voices (§2.2.4). As noted by Zúñiga & Kittilä (2019: 244), “[t]his may aid the speakers in keeping the two functions of this syncretic marker apart”. Finally, as also illustrated in Table 4.14, causative-anticausative type 1b in Kutenai is characterised by a glottal stop *-ʔ* which has the allomorph *-p* in the anticausative voice but not in the causative voice. As already noted in §3.2.2, the

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anticausative allomorph *-ʔ* appears before “the invariantly encliticized Indicative Marker *[-ni]*, and the invariantly encliticized Locative Marker *[-ki]*” and the allomorph *-p* appears elsewhere (Morgan 1991: 336). Compare, for example, the verbs *ɕaqa-ʔ-ni* ‘it (proximate) is greasy’ and *ɕaqa-p-si* ‘it (obviate) is greasy’. The suffixal *-a* in the verb *ʔiʔtwum-a-ʔ* is simply epenthetic.

Table 4.14: Examples of causative-anticausative syncretism

| Korean (Baek 1997: 82f.; Sohn 1999: 375) | | | | | |
|---|------------------|----------------------|---|--------------------|---------------------|
| CAUS | <i>cwul-</i> | ‘to decrease’ | ↔ | <i>cwul-li-</i> | ‘to reduce sth.’ |
| CAUS | <i>nwup-</i> | ‘to lie down’ | ↔ | <i>nwup-hi-</i> | ‘to lay sth. down’ |
| ANTC | <i>yel-</i> | ‘to open sth.’ | ↔ | <i>yel-li-</i> | ‘to open’ |
| ANTC | <i>mak-</i> | ‘to block sth.’ | ↔ | <i>mak-hi-</i> | ‘to block’ |
| Ainu (Shibatani 1990: 44) | | | | | |
| CAUS | <i>ray</i> | ‘to die’ | ↔ | <i>ray-ke</i> | ‘to kill sb.’ |
| CAUS | <i>ahun</i> | ‘to enter’ | ↔ | <i>ahun-ke</i> | ‘to make sb. enter’ |
| CAUS | <i>sat</i> | ‘to dry’ | ↔ | <i>sat-ke</i> | ‘to dry sth.’ |
| ANTC | <i>mak-a</i> | ‘to open sth.’ | ↔ | <i>mak-ke</i> | ‘to open’ |
| ANTC | <i>kom-o</i> | ‘to bend sth.’ | ↔ | <i>kom-ke</i> | ‘to bend’ |
| ANTC | <i>mes-u</i> | ‘to tear sth. off’ | ↔ | <i>mes-ke</i> | ‘to come off’ |
| Northern Mansi (Rombandeeva 1973: 154, 160) | | | | | |
| CAUS | <i>pons-</i> | ‘to cure’ | ↔ | <i>pons-l-</i> | ‘to cure sth.’ |
| CAUS | <i>tōs-</i> | ‘to dry’ | ↔ | <i>tōs-l-</i> | ‘to dry sth.’ |
| CAUS | <i>āst-</i> | ‘to end’ | ↔ | <i>āst-l-</i> | ‘to end sth.’ |
| ANTC | <i>sawa-t-</i> | ‘to torment sb.’ | ↔ | <i>sawa-l-</i> | ‘to stuffer’ |
| ANTC | <i>xarijy-t-</i> | ‘to extinguish sth.’ | ↔ | <i>xarijy-l-</i> | ‘to extinguish’ |
| ANTC | <i>xali-t-</i> | ‘to split sth.’ | ↔ | <i>xali-l-</i> | ‘to split’ |
| Kutenai (Morgan 1991: 25, 297, 336, 337) | | | | | |
| CAUS | <i>yikta</i> | ‘to spill’ | ↔ | <i>yikta-ʔ</i> | ‘to spill sth.’ |
| CAUS | <i>ʔiʔtwum</i> | ‘to become pregnant’ | ↔ | <i>ʔiʔtwum-a-ʔ</i> | ‘to impregnate sb.’ |
| ANTC | <i>ɕaqa</i> | ‘to grease sth.’ | ↔ | <i>ɕaqa-ʔ</i> | ‘to be greasy’ |
| ANTC | <i>ɕuku</i> | ‘to light sth.’ | ↔ | <i>ɕuku-ʔ</i> | ‘to become lit’ |

The causative-anticausative syncretism discussed for Korean is very likely of causative origin, and the same might be true for Ainu (§7.5.1). By contrast, there is currently no evidence for anticausative voice marking developing a causative function in any language.

4.4 Applicative syncretism

Patterns of applicative syncretism are among the least common patterns of voice syncretism attested in the language sample. In fact, applicative-anticausative syncretism remains unattested altogether, while applicative-reflexive syncretism is attested only as type 2 and type 3 syncretism. In any case, all kinds of applicative syncretism are explicitly discussed in the following sections for the sake of linguistic diversity.

4.4.1 Applicative-passive

Applicative-passive syncretism has received little prior explicit treatment in the literature, though it has been extensively discussed implicitly in relation to the syncretism between the passive voice and a so-called “adversative passive” in some languages which qualifies as applicative-passive syncretism in this book (§2.2.5). For instance, consider the following Japanese (EA) voice relations: *koros-* ‘to kill sb.’ ↔ *koros-are-* ‘to be killed [by sb.]’ and *sin-* ‘to die’ ↔ *sin-are-* ‘to die to the detriment of sb.’ (Zúñiga & Kittilä 2019: 244). See also Malchukov & Nedjalkov (2015: 608f.) for similar examples from the Tungusic language Evenki. Zúñiga & Kittilä (2019: 81) discuss the Japanese voice relation in terms of “subjective undergoer nucleatives” because “unlike applicatives, these operations install these [non-agentive] arguments as subjects”. This distinction is not maintained in this book, and the Japanese voice relation in question qualifies as applicative. Applicative-passive type 1 syncretism similar to that described for Japanese can be found in the related Japonic language Irabu which is included in the language sample of this book. The syncretism can additionally be found in the language isolate Kutenai (NA), in the Panoan language Chácobo, and the language isolate Mosestén (both SA). Applicative-passive syncretism in Irabu and Kutenai qualifies as type 1 syncretism, in Chácobo as type 2 syncretism, and in Mosestén as type 3 syncretism. The syncretism in the latter language has already been discussed in §3.2.4, while it is described for Kutenai and Chácobo in §5.3.3.

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In turn, glossed examples of applicative-passive syncretism in Irabu are provided here in the form of an applicative voice relation (18a↔18b) and a passive voice relation (18c↔18d). A similar applicative voice relation has already been discussed in §2.2.5 (see examples 23a↔23b on page 46). As seen in these examples, in Irabu the suffix *-ai* serves as voice marking in both the applicative (18b) and passive voices (18d). The suffix *-a* in (18c) is simply a “thematic vowel” which is found on some verbs when followed by “certain inflectional suffixes”, including the “finite irrealis intentional suffix *-di*” (Shimoji 2008: 260f.). Furthermore, the underlying stem in (18c↔18d) is actually *ž*. The geminate form *žž* is the result of a “geminate copy insertion rule” described by Shimoji (2008: 69) in the following manner: “if underlyingly moraic //C// and //(G)V// are adjacent in a word-plus, then a geminate copy of //C// is inserted to produce a surface /CiCi(G)V/”. This rule applies to both the thematic vowel *-a* and the applicative-passive suffix *-ai* (Shimoji 2008: 70, 297).

(18) Irabu (Shimoji 2008: 193, 297, 496)

- a. *taugagara=nu jaa=ju=du tur-tar*
 someone=NOM house=ACC=FOC take-PST
 ‘Someone took a house (by force)’.
- b. *kari=a taugagara=n jaa=ju=d tur-ai-tar*
 3SG=TOP someone=DAT house=ACC=FOC take-APPL-PST
 ‘He was troubled by the fact that someone took his house (by force)’.
- c. *ba=ga ffa-gama=u=du žž-a-di*
 1SG=NOM child-DIM=ACC=FOC scold-TH-INT
 ‘I will scold (my) little child’.
- d. *ba=a sinsii=n=du žž-ai-tar*
 1SG=TOP teacher=DAT=FOC scold-PASS-PST
 ‘I was scolded by the teacher’.

Zúñiga & Kittilä (2019: 244) argue that the similarity between applicatives (in their terminology, “subjective undergoer nucleatives”) and passives “is unsurprising given the grammatical relations involved in both kinds of constructions”. Here they refer to the similarities in how the applicative participant in the applicative voice and the semantic participant which is not the agent in the passive voice are treated (cf. *kari=a* ‘he’ in example 18b and *ba=a* ‘I’ in example 18d).

4.4.2 Applicative-antipassive

Applicative-antipassive syncretism has received some attention in the literature, though discussions of the syncretism remain largely sporadic. The syncretism has notably been discussed repeatedly in relation to the Eskimo language Central Alaskan Yupik (NA; e.g. Malchukov 2015: 121f.; 2016: 405ff.; 2017: 13ff.; Zúñiga & Kittilä 2019: 243; Basilico 2019: 210ff.). Malchukov and Zúñiga & Kittilä also mention applicative-antipassive syncretism in the Northern Chukotko-Kamchatkan language Chukchi (EA), and Malchukov describes the syncretism for the Interior Salish language Sliammon and the Central Salish language Halkomelem (NA). Both Central Alaskan Yupik and Chukchi are included in the language sample of this book and therefore discussed in this section. By contrast, the Interior and Central Salish genera are represented in the language sample by the languages Nxa'mxcin and Musqueam, respectively, but applicative-antipassive syncretism is not attested in these languages (Willett 2003; Suttles 2004). Additionally, it is worth observing that Valenzuela (2016: 524ff.) has explicitly argued for applicative-antipassive syncretism in the Cahuapanan language Shiwilu (SA), and even suggests that “Shiwilu’s sister language” Shawi features the syncretism in question as well. Consider, for instance, Shiwilu *lamapu* ‘to scream’ ↔ *lamapu*’-*tu* ‘to scream at sb.’ and *panu* ‘to give sth. as a present to sb.’ ↔ *panu*’-*tu* ‘to give sth. as a present [to sb.]’ (Valenzuela 2016: 524f.).

In addition to Central Alaskan Yupik and Chukchi, applicative-antipassive syncretism has only been attested in one other language in the language sample, the Gunwinyguan language Nunggubuyu (AU). The syncretism in question is of type 1 in Central Alaskan Yupik and Chukchi, but of type 3 in Nunggubuyu (§3.2.4). Interestingly, Central Alaskan Yupik possesses two suffixes that can serve as voice marking in both the applicative and antipassive voices, *-ut* and *-i* (with the respective underlying forms *-uc* and *-yi*, Miyaoka 2012: 830ff.). The former suffix even serves as voice marking in the reciprocal voice and is treated in more detail in §5.2.3. In turn, the functions of the latter suffix are here illustrated by an applicative voice relation (19a ↔ 19b) and an antipassive voice relation (19c ↔ 19d).

(19) Central Alaskan Yupik (Miyaoka 2012: 396, 517, 836)

- a. *nakmiilla-a tuqu-uq*
 own-ABS.3SG.SG die-IND.3SG
 ‘His real offspring died’.

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- b. *tuqu-i-gaqa* *nulia-qa*
die-APPL-IND.1SG:3SG wife-ABS.1SG.SG
'My wife died on me'.
- c. *qimugta* *tamar-aqa*
dog.ABS.SG lose-IND.1SG:3SG
'I lost the dog'.
- d. *angun* [*qimugte-mek*] *tamar-i-uq*
man.ABS.SG dog-ABL.SG lose-ANTP-IND.3SG
'The man lost [a dog]'.

In Chukchi applicative-antipassive syncretism is characterised by the prefix *ine-/ena-* conditioned by vowel harmony (Dunn 1999: 48), as exemplified by the following applicative (20a↔20b) and the antipassive voice relations (20c↔20d). Observe that the underlying stem in both (20a) and (20b) is the same (i.e. *jme*), the schwa in the former example is simply epenthetic (Dunn 1999: 39ff.).

(20) Chukchi (Dunn 1999: 212, 215f.)

- a. *ətlʔa-ta* *jəme-nenat* *ewirʔ-ə-t*
mother-ERG hang-3SG:3PL clothing-EP-3PL.ABS
'Mother hung up the clothes'.
- b. *ətlʔa-ta* ***ena-jme-nen*** *tətəl* *meniy-e*
mother-ERG APPL-hang-3SG:3SG door.3SG.ABS cloth-INS
'Mother hung the door with cloth'.
- c. *yəmnan t-ə-n-walom-at-ə-nat*
1SG.ERG 1SG.A-EP-CAUS-hear/understand-CAUS-EP-3PL.OBJ
ənpənacy-ə-t
old.man-EP-3PL.ABS
'I informed the old men'.
- d. *yəmo t-ena-n-walom-at-ə-k*
1SG.ABS 1SG-ANTP-CAUS-hear/understand-CAUS-EP-1SG
'I made an announcement'.

While applicative-antipassive syncretism in Central Alaskan Yupik is likely of applicative(-reciprocal) origin (§7.6.2), little is otherwise known about the diachronic development of such syncretism. Malchukov (2017: 24) suggests that “applicatives of transitives share the feature of P-demotion with antipassives”

which provides a plausible explanation for the syncretism, at least from a syntactic point of view. Semantically, all semantic participants remain in place in the passive voice.

4.4.3 Applicative-reflexive

It has not been possible to find any discussion nor mentioning of applicative-reflexive syncretism in the literature, and the syncretism has only been marginally attested in the language sample: as type 2 syncretism in the language isolate Kutenai (NA), and as type 3 syncretism in the language isolate Mosetén (SA) and in the Gunwinyguan language Nunggubuyu (AU). Applicative-reflexive type 1 syncretism remains unattested. The applicative-reflexive syncretism in Mosetén and Nunggubuyu has already been discussed in §3.2.4, whereas it is described for Kutenai here. In this language applicative-reflexive type 2 syncretism is characterised by an “Associative Suffix” *-m* (Morgan 1991: 209), which forms part of the voice marking in both the applicative (i.e. *-m-aʔ*) and reflexive voices (*-m-ik*), as illustrated in the following voice relations (21a↔21b) and (21c↔21d). Morgan (1991: 313, 321) calls the additional suffix *-ik* in the reflexive voice marking a “Reflexive Suffix”, and the additional suffix *-aʔ* in the applicative voice marking a “Co-Participant Suffix” which “occurs nowhere else in the language”. Neither suffix seems to have a reflexive or applicative function without the suffix *-m*.

(21) Kutenai (Morgan 1991: 292, 313, 363, 381)

- a. *kaʔ ku-ʕ ʔa-qaʔ haʔuqʔawut*
how SUBORD-FUT IM-be.thus-ADV fish
‘[I wondered] how I was going to fish [in order to get the char to bite]’.
- b. *taxa-s hu n-aʔuqʔawut-m-aʔ-ni-ʕ*
then-3 1SG PRED-fish-ASSOC-APPL-IND-and
‘Then I went out fishing with her’.
- c. *hu-n ʔiktuquʔ-ni*
1SG-PRED wash-IND
‘I washed him/her/it/them’.
- d. *hu-n ʔiktuquʔ-m-ik*
1SG-PRED wash-ASSOC-REFL
‘I washed myself’.

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Given the limited data available on applicative-reflexive syncretism – and the apparent absence of applicative-reflexive type 1 syncretism – it is not possible to draw any conclusions about the diachrony of the syncretism in question. It is, for instance, not clear how the Kutenai suffix *-m* has become part of both applicative and reflexive voice marking. For comparison, reciprocity in the language is characterised by the suffix *-nam* which “appears to have originated as the inflectional Indefinite Human (Subject) Suffix */-am/*, preceded by the N-Connector Suffix */-n-/*” (Morgan 1991: 376).

4.4.4 **Applicative-reciprocal**

In the literature applicative-reciprocal syncretism has been discussed most notably by Nedjalkov who has noted the syncretism in the Eskimo language West Greenlandic (NA; 2007c: 174), in the Bantu language Kinyarwanda (AF; 2007b: 42; 2007d: 275), and in the Turkic language Yakut (EA; 2007d: 237; Nedjalkov & Nedjalkov 2007). The applicative-reciprocal syncretism in Kinyarwanda has also been addressed by Maslova (2007), while applicative-reciprocal syncretism among Bantu languages in general has been discussed by Bostoen et al. (2015). These languages are all discussed in more detail in §7.2.6 and §7.6.1. Discussions of applicative-reciprocal syncretism are otherwise rather uncommon, yet the syncretism in question is undoubtedly the most common pattern of applicative syncretism in the language sample of this book. It is, however, primarily attested as type 2 syncretism, including in the Siouan language Assiniboine (NA), the Tibeto-Burman language Galo (EA), the Malayo-Sumbawan language Madurese (PN), the Central Cushitic language Khimt’anga (AF), and the Arauan language Kulina (SA). It is otherwise attested as type 1 syncretism in the Eskimo language Central Alaskan Yupik, the language isolate Yuchi (both NA), and the Ju-Kung language Western !Xun (AF); and as type 3 syncretism in the language isolate Mosestén, the Nadahup language Hup (both SA), and the Gunwinyguan language Nunggubuyu (AU). Applicative-reciprocal syncretism has been exemplified for Western !Xun in Table 3.6 on page 63, and for Mosestén, Hup, and Nunggubuyu in §3.2.4. The syncretism is described for the remaining languages here.

Applicative-reciprocal syncretism in Central Alaskan Yupik is illustrated by glossed applicative (22a↔22b) and reciprocal voice relations (22c↔22d) which show that the suffix *-ut* (with the underlying form *-uc*, Miyaoka 2012: 830ff.) can serve as voice marking in both the applicative (22b) and reciprocal voices (22d) in addition to the antipassive voice (§5.2.3). The suffix can optionally be accompanied by a reciprocal pronoun in the reciprocal voice (Miyaoka 2012: 928) as in (22d). The diachrony of the suffix is discussed in §7.2.4, §7.6.1, and §7.6.2.

(22) Central Alaskan Yupik (Miyaoaka 2012: 656, 844, 929, 953)

- a. *angute-m ner-aa neqa*
man-REL.SG eat-IND.3SG:3SG fish.ABS.SG
'The man is eating the fish'.
- b. *ner-ut-aa neq-mek angun*
eat-APPL-IND.3SG:3SG fish-ABL.SG man.ABS.SG
'She is eating fish with the man'.
- c. *tangrr-aqa kenurraq qull-ra-mni*
see-IND.1SG:3SG lamp.ABS.SG area.above-just-LOC.1SG.SG
'I saw the lamp just right above me'.
- d. *aana-ka kass'aq=llu tangrr-ut-uk*
mother-ABS.1SG.SG white.man.ABS.SG=and see-RECP-IND.3DU
ellmeg-nek
3DU-ABL
'My mother and the white man see each other'.

Applicative-reciprocal type 1 syncretism in Yuchi appears to have developed rather recently. Linn (2000: 251, 265) argues that historically the “accompaniment” prefix *k'ã-* has served as voice marking in the applicative voice, while the prefix *k'a-* has served as voice marking in the reciprocal voice. However, Linn (2000: 251) further remarks that “[s]ome speakers today make no difference in pronunciation between the reciprocal prefix and the accompaniment prefix” and that “some speakers pronounce both *k'æ*” or *k'a-*. The present resemblance between the voice marking in the applicative and reciprocal voices in the language is illustrated in Table 4.15. Nevertheless, note that the variation in pronunciation of the prefix in the applicative voice remains visible to some extent in the language – at least in Linn’s grammar. For instance, Linn (2000: 254) lists the applicative verbs in Table 4.15 elsewhere in her grammar as *k'ã-thla* and *k'ã-gõ*.

Table 4.15: Applicative-reciprocal type 1 syncretism

| Yuchi (Linn 2000: 148f., 213, 226, 253f.) | | | | | |
|---|-------------|-------------------|---|-----------------|--------------------------|
| APPL | <i>gõ</i> | ‘to come’ | ↔ | <i>k'a-gõ</i> | ‘to bring/come with sb.’ |
| APPL | <i>thla</i> | ‘to go’ | ↔ | <i>k'a-thla</i> | ‘to carry/go with sb.’ |
| RECP | <i>nẽ</i> | ‘to see/meet sb.’ | ↔ | <i>k'a-nẽ</i> | ‘to see/meet e.o.’ |
| RECP | <i>yuhõ</i> | ‘to embrace sb.’ | ↔ | <i>k'a-yuhõ</i> | ‘to embrace e.o.’ |

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Applicative-reciprocal type 2 syncretism is illustrated for Assiniboiné, Galo, Kulina, Madurese, and Khimt'anga in Table 4.16. In Assiniboiné the prefixes *ki-* and *kíci-* both serve as voice marking in the applicative voice, while the prefix *kic^{hi}-* serves as voice marking in the reciprocal voice. Cumberland (2005: 258) calls these suffixes “*ki* morphemes” because “they have related meanings, share phonological characteristics, and have similar phonetic shapes that are likely due to a common historical source”. Note that the prefixes *ki-* and *kíci-* sometimes appear as infixes (e.g. *ícú* ‘to smoke’ ↔ *i<kí>cú* ‘to smoke for sb.’ and *iyúškí* ‘to admire sb.’ ↔ *i<kíci>yúškí* ‘to admire sb. for sb.’, Cumberland 2005: 263ff.). Note also that the stress is fixed on the affix *kíci-* but not on the other two affixes (for instance, the stress pattern *kic^{hi}-* appears in the third person, while the stress pattern *kíci^{hi}-* appears in the first person, Cumberland 2005: 270). More examples of the prefixes *ki-* and *kic^{hi}-* are provided in Table 3.11 on page 69. Next, in Galo the suffix *-rík* serves as voice marking in both the applicative and reciprocal voices, in the latter in combination with the suffix *-hí*. Post (2007: 530f.) speculates that the former suffix *-rík* can “presumably reconstruct to Proto-Tani” with the sense ‘to meet’, whereas the latter suffix has a reflexive function (e.g. *pá-* ‘to cut sth.’ ↔ *pá-hí-* ‘to cut self’, Post 2007: 137, 541).

In Kulina the prefix *ka-* serves as voice marking in both the applicative and reciprocal voices, in the latter in combination with the suffix *-ra* forming a circumfix. The element *-k-* in the second reciprocal example is simply epenthetic. In Kulina “non-inflecting verbs are followed by an auxiliary, which takes the inflectional affixes” (Dienst 2014: 7). Accordingly, the voice marking *ka-...-ra* is found on the auxiliary verb *na* (lit. ‘to say’) in the first reciprocal example (cf. applicative *haha ka-na* ‘to laugh at sb.’, Dienst 2014: 103). Furthermore, note that Kulina makes a distinction between dual and plural reciprocals (Dienst 2014: 129ff.): the voice marking in Table 4.16 represents dual reciprocity, while plural reciprocity is expressed by the prefix *ka-* accompanied by full reduplication (e.g. *bishi-bishi ka-na* ‘to pinch e.o.’). Finally, observe that the verb *bishi na* appears as *bishi ta-[...]* in the original source (Dienst 2014: 78). The form *ta-* results from the fusion of a third person marker *to-* and the auxiliary verb *na* (**to-na-* > *ta-*, Dienst 2014: 141). Next, in Madurese the suffix *-an* (or *-wan/-yan* due to glide epenthesis, Davies 2010: 41f.) serves as voice marking in both the applicative and reciprocal voices. The suffix is accompanied by the prefix *ka-* in the former voice and by partial reduplication in the latter voice. Finally, in Khimt'anga full reduplication forms part of the voice marking in both the applicative and reciprocal voices, in the former accompanied by the suffix *-(i)s* and in the latter by the suffix *-fit/-fit*. The schwa in the reduplicated forms is simply a “linking vowel” (Teshome 2015:

Table 4.16: Applicative-reciprocal type 2 syncretism

| | | | | |
|---|------------------|--------------------|-------------------------------------|---|
| Assiniboiné (Cumberland 2005: 263ff., 270f.) | | | | |
| APPL | <i>kté</i> | ‘to kill sb.’ | ↔ <i>ki-kté</i> | ‘to kill sb. for sb.’ |
| APPL | <i>nowá</i> | ‘to sing’ | ↔ <i>kíci-nowá</i> | ‘to sing for sb.’ |
| RECP | <i>kté</i> | ‘to kill sb.’ | ↔ <i>kic^{hi}-kte</i> | ‘to kill e.o.’ |
| RECP | <i>yaʔiškata</i> | ‘to tease sb.’ | ↔ <i>kic^{hi}-yaʔiškata</i> | ‘to tease e.o.’ |
| Galo (Post 2007: 134, 137, 152, 519, 530, 543, 725, 935) | | | | |
| APPL | <i>dàk</i> | ‘to stand’ | ↔ <i>dàk-rík</i> | ‘to stand up next to sb.’ |
| APPL | <i>ín</i> | ‘to go’ | ↔ <i>ín-rík</i> | ‘to go to sb.’ |
| RECP | <i>pá</i> | ‘to chop sth.’ | ↔ <i>pá-rík-hí</i> | ‘to cut e.o.’ |
| RECP | <i>záp</i> | ‘to talk to sb.’ | ↔ <i>záp-rík-hí</i> | ‘to talk to e.o.’ |
| Kulina (Dienst 2014: 78, 114, 128ff., 139, 175, 185, 249, 287ff.) | | | | |
| APPL | <i>maiza</i> | ‘to lie’ | ↔ <i>ka-maiza</i> | ‘to cheat/lie to sb.’ |
| APPL | <i>kha</i> | ‘to go’ | ↔ <i>ka-kha</i> | ‘to bring/go with sb.’ |
| RECP | <i>bishi na</i> | ‘to pinch sb.’ | ↔ <i>bishi ka-na-ra</i> | ‘to pinch e.o.’ |
| RECP | <i>ida</i> | ‘to beat sb.’ | ↔ <i>ka-k-ida-ra</i> | ‘to beat e.o.’ |
| Madurese (Davies 2010: 104, 168, 252, 279, 425f.) | | | | |
| APPL | <i>gaggar</i> | ‘to fall’ | ↔ <i>ka-gaggar-an</i> | ‘to fall to the detriment of sb.’ |
| APPL | <i>robbu</i> | ‘to collapse’ | ↔ <i>ka-robbu-wan</i> | ‘to collapse to the detriment of sb.’ |
| RECP | <i>pokol</i> | ‘to hit sb.’ | ↔ <i>kol-pokol-an</i> | ‘to hit e.o.’ |
| RECP | <i>kerem</i> | ‘to send sb. sth.’ | ↔ <i>rem-kerem-an</i> | ‘to send e.o. sth.’ |
| Khimt’anga (Teshome 2015: 162, 168, 231f., 235ff.) | | | | |
| APPL | <i>dziβ-</i> | ‘to buy sth.’ | ↔ <i>dziβ-ə-dziβ-is-</i> | ‘to buy sth. with the support of sb.’ |
| APPL | <i>kil-</i> | ‘to break sth.’ | ↔ <i>kil-ə-kil-s-</i> | ‘to break sth. with the support of sb.’ |
| RECP | <i>kil-</i> | ‘to break sth.’ | ↔ <i>kil-ə-kil-fit-</i> | ‘to break e.o.’ |
| RECP | <i>qal-</i> | ‘to see sth.’ | ↔ <i>qal-ə-qal-fit-</i> | ‘to see e.o.’ |

xxi). Observe that the former suffix in Khimt'anga also serves as voice marking in the causative voice (see Table 4.8 on page 99) and the latter suffix as voice marking in the passive voice (e.g. χ^w - 'to eat sth.' \leftrightarrow χ^w -*ifit*- 'to be eaten [by sb.]', Teshome 2015: 235).

4.4.5 Applicative-anticausative

Applicative-anticausative syncretism appears to be the rarest of the 21 patterns of voice syncretism covered in this chapter and is not attested in a single language in the language sample. However, it can be mentioned here that there is potentially a vague hint of applicative-anticausative type 2 syncretism in the Northern Chukotko-Kamchatkan language Chukchi (EA), but it cannot be regarded as productive. The language in question has a “verb deriver” *-et/-at* conditioned by vowel harmony which performs “a range of generally unpredictable morphological functions, including derivation of verbs from other word classes, acting as thematic suffixes with other derivational prefixes, and marking certain forms as having unpredictable semantic or syntactic features” (Dunn 1999: 48, 243). The suffix in question can, for instance, serve as voice marking in the anticausative voice together with three verbs (Kurebito 2012: 187; Dunn 1999: 256), and apparently also in the applicative voice with a single verb, *wetyaw*- 'to speak'. In the latter case, the suffix is accompanied by the prefix *r-/n-* (Dunn 1999: 199, 213). Examples are provided in Table 4.17.

Table 4.17: Hints of applicative-anticausative syncretism in Chukchi

| Chukchi (Dunn 1999: 256; Kurebito 2012: 187) | | | | | |
|--|---------------|------------------|-------------------|----------------------|-------------------|
| ? APPL | <i>wetyaw</i> | 'to speak' | \leftrightarrow | <i>r-/n-wetya-at</i> | 'to speak to sb.' |
| ANTC | <i>ejp-</i> | 'to close sth.' | \leftrightarrow | <i>ejp-et</i> | 'to close' |
| ANTC | <i>tejwŋ-</i> | 'to divide sth.' | \leftrightarrow | <i>tejwŋ-et</i> | 'to divide' |
| ANTC | <i>pela-</i> | 'to leave sth.' | \leftrightarrow | <i>pela-(e)t</i> | 'to remain' |

McGill (2009: 223) claims that in the Kainji language Cicipu (AF) “[t]he anticausative suffix *-wA* is formally identical to the applicative suffix”. Consider, for instance, the examples *dúkwa* ‘to go’ \leftrightarrow *dúkwa-wà* ‘to go with sb.’ and *sídù* ‘to heat sth.’ \leftrightarrow *sídù-wà* ‘to spoil’, i.e. ‘to get hot’ (McGill 2009: 134, 142, 223f.). However, McGill (2009: 224) also argues that “[t]he function of the anticausative is to downplay the role of the agent/causer in the event denoted by the verb, so much so that it cannot be expressed at all”. This description suggests that there

is an agent (although it is “downplayed” and cannot be expressed syntactically) in the purported anticausative, in which case the voice is probably better treated as absolute passive. Note, for instance, that McGill translates the verb *sídù-wà* elsewhere ‘[the water] got heated’. The limited data provided by McGill do not shed further light upon the matter, and for the time being it remains inconclusive whether or not Cicipu features applicative-anticausative syncretism.

4.5 Overview

As demonstrated in this chapter, nineteen of the 21 patterns of voice syncretism listed at the beginning of this chapter (see Table 4.1 on page 75) have been attested as type 1 syncretism in the language sample of this book. The remaining two patterns are applicative-reflexive syncretism and applicative-anticausative syncretism, the former pattern of which is attested as type 2 syncretism in the language isolate Kutenai (NA) while the latter pattern remains unattested altogether. This is not particularly surprising considering the seemingly disparate functions of the voices involved in the syncretism. For instance, in the latter case the anticausative voice is generally associated with a reduction in semantic participants, while the applicative voice is associated with an increase. Likewise, it is difficult to conceive a hypothetical context in which applicative-reflexive syncretism would arise. As noted in §4.4.3, it has not been possible to resolve the diachrony of the syncretism in Kutenai. Furthermore, this chapter has shown that some patterns of voice syncretism are more prone to form part of complex voice syncretism than others. For instance, while many languages discussed in this chapter feature voice marking restricted exclusively to two voices associated with middle syncretism (e.g. Baraïn passive-reciprocal *-jô*), most voice marking found in patterns of antipassive syncretism are syncretic with marking in other voices as well (cf. Ese Ejja antipassive-reflexive-reciprocal-anticausative *xa-...-ki*). The wider syncretic scope of marking of the latter kind is discussed in more detail in terms of complex voice syncretism in the next chapter. Likewise, the distribution and frequency of voice syncretism as well as its diachrony have only been addressed briefly in this chapter, and are treated more comprehensively in Chapters 6 and 7, respectively.

An overview of the 19 patterns of type 1 voice syncretism covered in this chapter are provided in Table 4.18 for easy reference. The table does not include the applicative-reflexive syncretism only attested as type 2 syncretism nor the unattested applicative-anticausative syncretism mentioned in the beginning of this section. The examples in the table are listed in the same order as they have been

4 *Simplex voice syncretism*

discussed in the previous sections, and page numbers provide references to more information about them. However, note that the Chukchi example *lʔu-tku-* comes from Table 5.7 on page 135 and the Wolaytta example *meeC-ett-* from Table 5.12 on page 140 in the next chapter.

Table 4.18: Overview of minimal simplex voice syncretism

| | | | | | | | |
|-----------|-----------|---------------------|------------------------------|---|----------------------|--------------------------|----------|
| Arapaho | REFL-RECP | <i>eeneti3-eti-</i> | ‘to speak to self’ | ↔ | <i>eeneti3-eti-</i> | ‘to speak to e.o.’ | (p. 77) |
| Yeri | REFL-ANTC | <i>d-altou</i> | ‘to cover self’ | ↔ | <i>d-awil</i> | ‘to hang’ | (p. 78) |
| Chukchi | RECP-ANTC | <i>lʔu-tku-</i> | ‘to see e.o.’ | ↔ | <i>ejpə-tku-</i> | ‘to close’ | (p. 79) |
| Kayardild | PASS-REFL | <i>bala-a-</i> | ‘to be hit [by sb.]’ | ↔ | <i>bala-a-</i> | ‘to hit self’ | (p. 81) |
| Baräin | PASS-RECP | <i>járō-jó</i> | ‘to be looked for [by sb.]’ | ↔ | <i>járō-jó</i> | ‘to look for e.o.’ | (p. 82) |
| Dhimäl | PASS-ANTC | <i>cuma-nha-</i> | ‘to be taken [by sb.]’ | ↔ | <i>on-nha-</i> | ‘to cook’ | (p. 83) |
| Ese Ejja | ANTP-REFL | <i>xa-ishwa-ki-</i> | ‘to wait for [sth.]’ | ↔ | <i>xa-jabe-ki-</i> | ‘to comb self’ | (p. 86) |
| Tatar | ANTP-RECP | <i>jaz-əš-</i> | ‘to write [sth.]’ | ↔ | <i>sug-əš-</i> | ‘to hit e.o.’ | (p. 89) |
| Majang | ANTP-ANTC | <i>káw-dfi:</i> | ‘to bite [sb.]’ | ↔ | <i>ñü:l-dfi:</i> | ‘to break’ | (p. 90) |
| Mosetén | PASS-ANTP | <i>raem’ya-ki-</i> | ‘to be bitten [by sb.]’ | ↔ | <i>raem’ya-ki-</i> | ‘to bite [sb.]’ | (p. 94) |
| Ternate | CAUS-APPL | <i>si-hotu</i> | ‘to make sb. sleep’ | ↔ | <i>si-hoi</i> | ‘to open sth. for sb.’ | (p. 97) |
| Kilen | CAUS-PASS | <i>tanta-wu</i> | ‘to make sb. hit sb.’ | ↔ | <i>tanta-wu</i> | ‘to be hit [by sb.]’ | (p. 102) |
| Balanta | CAUS-ANTP | <i>sug-t-</i> | ‘to make sb. drink sth.’ | ↔ | <i>lɔt-t-</i> | ‘to cook [sth.]’ | (p. 105) |
| Wolaytta | CAUS-REFL | <i>malL-ett-</i> | ‘to make sth. tasty’ | ↔ | <i>meeC-ett-</i> | ‘to wash self’ | (p. 106) |
| Yine | CAUS-RECP | <i>hasika-kaka-</i> | ‘to make sb. run’ | ↔ | <i>hiylaka-kaka-</i> | ‘to hit e.o.’ | (p. 108) |
| Korean | CAUS-ANTC | <i>cwul-li-</i> | ‘to reduce sth.’ | ↔ | <i>yel-li-</i> | ‘to open’ | (p. 112) |
| Irabu | APPL-PASS | <i>tur-ai-</i> | ‘to take sth. affecting sb.’ | ↔ | <i>žž-ai-</i> | ‘to be scolded [by sb.]’ | (p. 114) |
| Yupik | APPL-ANTP | <i>tuqu-i-</i> | ‘to die affecting sb.’ | ↔ | <i>tamar-i-</i> | ‘to lose [sb.]’ | (p. 115) |
| Yuchi | APPL-RECP | <i>k’a-gō</i> | ‘to come with sb.’ | ↔ | <i>k’a’-yuhō</i> | ‘to embrace e.o.’ | (p. 119) |

5 Complex voice syncretism

Given the seven voices of focus in this book (i.e. passive, antipassive, reflexive, reciprocal, anticausative, causative, applicative), 99 patterns of voice syncretism can logically be posited when one considers *more than two* voices sharing the same voice marking. However, only seventeen patterns of complex voice syncretism have actually been attested in the language sample and these represent the focus of this chapter (Table 5.1). The patterns are discussed in terms of maximal syncretism, meaning that any given voice marking is discussed with regard to its full range of voice functions. Some of the patterns have already been mentioned briefly in terms of minimal syncretism in the previous chapter, but receive a more comprehensive treatment in this chapter. The distinction between minimal and maximal voice syncretism has been explained in Chapter 1.

Table 5.1: Patterns of full complex voice syncretism

| Middle | Antipassive | Causative |
|---------------------|---------------------|---------------------|
| REFL-RECP-ANTC | ANTP-REFL-RECP | CAUS-REFL-ANTC |
| PASS-REFL-RECP | ANTP-REFL-ANTC | CAUS-PASS-RECP |
| PASS-REFL-ANTC | PASS-ANTP-ANTC | CAUS-PASS-ANTC |
| PASS-RECP-ANTC | APPL-ANTP-RECP | CAUS-APPL-PASS |
| PASS-REFL-RECP-ANTC | ANTP-REFL-RECP-ANTC | CAUS-PASS-REFL-RECP |
| | PASS-ANTP-REFL-ANTC | |

Sixteen of the seventeen patterns of complex voice syncretism covered by this chapter are divided into the three groupings shown in Table 5.1 to facilitate their discussion in a convenient manner. Middle syncretism refers to complex voice syncretism involving three or four of the following voices: passive, reflexive, reciprocal, anticausative (§5.1). In turn, antipassive and causative voice syncretism refer to complex voice syncretism involving the antipassive voice (§5.2) and the causative voice (§5.3), respectively. The last pattern not included in Table 5.1 is passive-antipassive-reflexive-reciprocal-anticausative syncretism which is discussed separately from the other groupings due to its rare nature (§5.4).

5.1 Middle syncretism

As shown in the beginning of this chapter, five patterns of complex middle syncretism are attested in the language, and each of these patterns is illustrated in this section. The most complex pattern of middle syncretism, passive-reflexive-reciprocal-anticausative syncretism, is attested in the Indo-European language Eastern Armenian (EA) and the Uto-Aztecan language Huasteca Nahuatl (NA).

Table 5.2: Passive-reflexive-reciprocal-anticausative syncretism

| Eastern Armenian (Dum-Tragut 2009: 177f., 240, 322, 334, 340ff., 358ff., 610, 661) | | | | |
|--|-----------------|-------------------------|----------------------|---------------------------|
| PASS | <i>span-</i> | ‘to kill sb.’ | ↔ <i>span-v-</i> | ‘to be killed [by sb.]’ |
| PASS | <i>merž-</i> | ‘to reject sth.’ | ↔ <i>merž-v-</i> | ‘to be rejected [by sb.]’ |
| REFL | <i>sanr-</i> | ‘to comb sb.’ | ↔ <i>sanr-v-</i> | ‘to comb self’ |
| REFL | <i>paštpan-</i> | ‘to defend sb.’ | ↔ <i>paštpan-v-</i> | ‘to defend self’ |
| RECP | <i>tesn-</i> | ‘to see sth.’ | ↔ <i>tesn-v-</i> | ‘to see e.o.’ |
| RECP | <i>hambur-</i> | ‘to kiss sb.’ | ↔ <i>hambur-v-</i> | ‘to kiss e.o.’ |
| ANTC | <i>ĵard-</i> | ‘to break sth.’ | ↔ <i>ĵard-v-</i> | ‘to break’ |
| ANTC | <i>šarž-</i> | ‘to move sth.’ | ↔ <i>šarž-v-</i> | ‘to move’ |
| Huasteca Nahuatl (Llanes et al. 2017: 90ff.) | | | | |
| PASS | <i>tlali-</i> | ‘to put sth.’ | ↔ <i>mo-tlali-</i> | ‘to be put [by sb.]’ |
| REFL | <i>ilpi-</i> | ‘to tie sth.’ | ↔ <i>mo-ilpi-</i> | ‘to tie self’ |
| RECP | <i>ita-</i> | ‘to see sth.’ | ↔ <i>mo-ita-</i> | ‘to see e.o.’ |
| RECP | <i>wika-to-</i> | ‘to get along with sb.’ | ↔ <i>mo-wika-to-</i> | ‘to get along with e.o.’ |
| ANTC | <i>tlan-</i> | ‘to lift sth.’ | ↔ <i>mo-tlan-</i> | ‘to stand up’ |
| ANTC | <i>kweso-</i> | ‘to sadden sb.’ | ↔ <i>mo-kweso-</i> | ‘to get sad’ |

As illustrated in Table 5.2, the syncretism is characterised by the suffix *-v* in Eastern Armenian, and by the prefix *mo-* in Huasteca Nahuatl. Observe that the Eastern Armenian verb *hambur-* without *-v* is not explicitly given in Dum-Tragut’s (2009) grammar of the language (see instead, e.g., Sakayan 2007: 162). Llanes et al. (2017: 81f.) only provide one example each for the passive and reflexive functions of the prefix *mo-* in Huasteca Nahuatl, yet describe the functions as if they were productive and also explicitly mention the “syncretism between reflexive, reciprocal, middle and passive meanings”. Interestingly, Llanes et al. (2017: 102) remark that “none anticausative use has been documented in the corpus for the prefix” (sic), yet at least two of their examples qualify as such in this

book (*mo-tlan-* and *mo-kweso-*). Note that a directional marker *-to* is included in the verb *mo-wika-to-*. Llanes et al. (2017: 91) argue that “[a]lthough the base verb *wika* ‘get along’ could be analysed here as an intransitive verb since it is suffixed by a directional marker, this verb is still bivalent (the second argument would be an oblique argument introduced by the directional marker)”. In other words, when succeeded by the suffix *-to* the verb *wika-* entails two semantic participants: one who gets along, and another with which one gets along.

The other four patterns of complex middle syncretism attested in the language sample are each attested in at least two languages, and for practical reasons the patterns are therefore illustrated by a single language each in Table 5.3: reflexive-reciprocal-anticausative syncretism in the Torricelli language Yine (PN), passive-reflexive-reciprocal syncretism in the Nadahup language Hup (SA), passive-reflexive-anticausative syncretism in the Tangkic language Kayardild (AU), and passive-reciprocal-anticausative syncretism in the Highland East Cushitic language Sidaama (AF). In Yeri the “detransitivizing morpheme” *d-* serves as voice marking in the reflexive, reciprocal and anticausative voices. Wilson (2017: 369f.) explicitly recognises each of these voice functions, and remarks that the anticausative function “is particularly common with specific posture-arrange transitive verb roots, where its use creates several of the posture verbs”. This particular pattern is not just the most common pattern of middle syncretism attested in the language sample, but the most common of all complex patterns (see Table 6.17 on page 165). In turn, in Hup the prefix *hup-* serves as voice marking in the passive, reflexive, and reciprocal voices. However, the reciprocal function of the prefix is “marginal” and always “interchangeable with the Interactional preform *?üh-*” (Epps 2008: 473, 485f.; cf. *?üh-nɔʔ-* ‘to give e.o. sth.’). Unlike the affixes *-v*, *mo-*, and *d-* in Eastern Armenian, Huasteca Nahuatl, and Yeri, respectively, the Hup prefix *hup-* does not have a documented anticausative function. The diachrony of the prefix is discussed in §7.1.1 and §7.1.3.

In Kayardild passive-reflexive-anticausative syncretism is characterised by a so-called “middle suffix” with a range of allomorphs, two of which are relevant to the examples presented in Table 5.3: *-yii* found on stems ending in a long vowel which is shortened, and vowel lengthening (or *-V*) found on stems ending in a short vowel other than /u/ (Evans 1995: 276f.). The verb *mardala-* in the table also can have the meaning ‘to paint sth.’ (Evans 1995: 726). Unlike the affixes *-v*, *mo-*, *d-* and *hup-* in Eastern Armenian, Huasteca Nahuatl, Yeri, and Hup above, the suffix *-yii/-V* in Kayardild is not used as voice marking in the reciprocal voice which is instead characterised by the suffix *-(n)thu/-nju* (e.g. *bala-thu-* ‘to hit e.o.’, Evans 1995: 487; see also §7.2.1). Finally, passive-reciprocal-anticausative syncretism in

5 Complex voice syncretism

Table 5.3: Four patterns of complex middle syncretism

| Yeri (Wilson 2017: 369f., 385, 451, 461, 692) | | | | | |
|--|------------------|-------------------------|---|--------------------|--------------------------|
| REFL | <i>altou</i> | ‘to cover sth.’ | ↔ | <i>d-altou</i> | ‘to cover self’ |
| REFL | <i>iesebil</i> | ‘to whip sb.’ | ↔ | <i>d-iesebil-</i> | ‘to whip self’ |
| RECP | <i>okirki</i> | ‘to help sb.’ | ↔ | <i>d-okirki</i> | ‘to help e.o.’ |
| RECP | <i>iekewa</i> | ‘to be angry at sb.’ | ↔ | <i>d-iekewa</i> | ‘to be angry at e.o.’ |
| ANTC | <i>awil</i> | ‘to hang sth.’ | ↔ | <i>d-awil</i> | ‘to hang’ |
| ANTC | <i>awera</i> | ‘to make sth. lie flat’ | ↔ | <i>d-awera</i> | ‘to lie flat’ |
| Hup (Epps 2008: 46, 479, 483, 486, 513, 574) | | | | | |
| PASS | <i>kít-</i> | ‘to cut sth.’ | ↔ | <i>hup-kít-</i> | ‘to be cut [by sb.]’ |
| PASS | <i>máéh-</i> | ‘to kill sb.’ | ↔ | <i>hup-máéh-</i> | ‘to be killed [by sb.]’ |
| REFL | <i>kít-</i> | ‘to cut sth.’ | ↔ | <i>hup-kít-</i> | ‘to cut self’ |
| REFL | <i>cúʔ-</i> | ‘to grab sth.’ | ↔ | <i>hup-cúʔ-</i> | ‘to grab self’ |
| RECP | <i>wáéd-</i> | ‘to eat sth.’ | ↔ | <i>hup-wáéd-</i> | ‘to eat e.o.’ |
| RECP | <i>nɔʔ-</i> | ‘to give sb. sth.’ | ↔ | <i>hup-nɔʔ-</i> | ‘to give e.o. sth.’ |
| Kayardild (Evans 1995: 1f., 79, 212, 352, 427, 532, 490, 696) | | | | | |
| PASS | <i>bala-</i> | ‘to hit sth.’ | ↔ | <i>bala-a-</i> | ‘to be hit [by sb.]’ |
| PASS | <i>raa-</i> | ‘to spear sth.’ | ↔ | <i>ra-yii-</i> | ‘to be speared [by sb.]’ |
| REFL | <i>mardala-</i> | ‘to rub sth.’ | ↔ | <i>mardala-a-</i> | ‘to rub self’ |
| REFL | <i>kala-</i> | ‘to cut sth.’ | ↔ | <i>kala-a-</i> | ‘to cut self’ |
| ANTC | <i>dara-</i> | ‘to break sth.’ | ↔ | <i>dara-a-</i> | ‘to break’ |
| ANTC | <i>mirndili-</i> | ‘to shut sth.’ | ↔ | <i>mirndili-i-</i> | ‘to shut’ |
| Sidaama (Kawachi 2007: 117, 186, 220, 225, 315, 334, 342, 545) | | | | | |
| PASS | <i>gan-</i> | ‘to hit sth.’ | ↔ | <i>gan-am-</i> | ‘to be hit [by sb.]’ |
| PASS | <i>haišš-</i> | ‘to wash sth.’ | ↔ | <i>haišš-am-</i> | ‘to be washed [by sb.]’ |
| RECP | <i>sunk’-</i> | ‘to kiss sb.’ | ↔ | <i>sunk’-am-</i> | ‘to kiss e.o.’ |
| RECP | <i>t’aad-</i> | ‘to meet sb.’ | ↔ | <i>t’aad-am-</i> | ‘to meet e.o.’ |
| ANTC | <i>hiikk’-</i> | ‘to break sth.’ | ↔ | <i>hiikk’-am-</i> | ‘to break’ |
| ANTC | <i>t’iss-</i> | ‘to make sb. sick’ | ↔ | <i>t’iss-am-</i> | ‘to get sick’ |

Sidaama is characterised by the suffix *-am*. Kawachi (2007: 333ff., 342ff.) explicitly recognises the passive and reciprocal functions of the suffix but does not mention any anticausative function. However, it is evident from several of the examples found in Kawachi's (2007: e.g. 117) grammar of the language that the suffix also has this function. For instance, in one case Kawachi (2007: 186) translates the verb *hiikk'-am-* accompanied by an emphatic reflexive pronoun '(the mirror) got broken by itself' highlighting that no other semantic participant is involved. The diachrony of the Sidaama suffix *-am* is discussed in §7.4.2, in which it is argued that the suffix represents a rare instance of reciprocal voice marking developing a passive function.

5.2 Antipassive syncretism

Eleven languages in the language sample feature one of the six patterns of complex antipassive voice syncretism presented at the beginning of this chapter (see Table 5.1 on 127). Patterns involving both the passive and antipassive voices are discussed in the next section, while patterns involving both the antipassive and reflexive voices are treated in §5.2.2 and applicative-antipassive-reciprocal syncretism in §5.2.3.

5.2.1 Passive-antipassive-*

Complex voice syncretism involving both the passive and antipassive voices is only attested in two languages in the language sample, the Turkic language Tatar (EA) and the language isolate Moseetén (SA). The former language features passive-antipassive-reflexive-reciprocal syncretism, while the latter language features passive-antipassive-reciprocal syncretism. The syncretism in Tatar is characterised by the suffix *-n*, as illustrated in Table 5.4. The passive suffix *-n* appears to be an allomorph of another passive suffix *-l* which can be traced back to Common Turkic. In Tatar the allomorph *-n* appears on stems ending in /l/ or a consonant cluster involving the phoneme, while the allomorph *-l* appears elsewhere (Burbiel 2018: 473). The anticausative suffix *-n* appears to be similar in this respect. By contrast, the suffix *-n* in the reflexive and antipassive voices has no allomorph *-l* and is historically linked to a third person pronoun (§7.1.4).

Table 5.4: Passive-antipassive-reflexive-anticausative syncretism

| Tatar (Zinnatullina 1993: 173; Burbiel 2018: 473, 484f.) | | | | | |
|--|-------------------|------------------|---|---------------------|---------------------------|
| PASS | <i>sayla-</i> | ‘to choose sth.’ | ↔ | <i>sayla-n-</i> | ‘to be chosen [by sb.]’ |
| PASS | <i>alda-</i> | ‘to deceive sb.’ | ↔ | <i>alda-n-</i> | ‘to be deceived [by sb.]’ |
| ANTP | <i>peşer-</i> | ‘to cook sth.’ | ↔ | <i>peşer-en-</i> | ‘to cook [sth.]’ |
| ANTP | <i>teg-</i> | ‘to sew sth.’ | ↔ | <i>teg-en-</i> | ‘to sew [sth.]’ |
| REFL | <i>tara-</i> | ‘to comb sb.’ | ↔ | <i>tara-n-</i> | ‘to comb self’ |
| REFL | <i>sört-</i> | ‘to dry sth.’ | ↔ | <i>sört-en-</i> | ‘to dry self’ |
| ANTC | <i>karañgıla-</i> | ‘to darken sth.’ | ↔ | <i>karañgıla-n-</i> | ‘to darken’ |
| ANTC | <i>ütmäslä-</i> | ‘to dull sth.’ | ↔ | <i>ütmäslä-n-</i> | ‘to dull’ |

Sakel (2004: 236, 306ff.) argues that Mosetén has three suffixes with “the same form” *-ki*: a “verbal stem marker”, a “middle marker”, and an “antipassive marker”. Sakel’s markers are here treated as a single syncretic suffix, *-ki*, which qualifies as voice marking in the passive, antipassive, and anticausative voices, as shown in Table 5.5. Observe that stem-final /i/ becomes /a/ when followed by *-ki* and certain other suffixes (Sakel 2004: 47, 308). An “associated motion marker” *-ki* is also recognised by Sakel (2004: 273), but there is a structural difference between this and the passive-antipassive-anticausative marker *-ki* that “has to do with the vowel change before the suffix”. Moreover, as associated motion is not directly relevant to this book, the function is ignored. The use of *-ki* as a verbal stem marker is not of primary interest here either, as it is “only used with bound verbal roots” to form verbal stems (Sakel 2004: 218, 236). However, from a language-specific perspective, it may be worth noting that verbal stems incorporating the suffix in question are “intransitive and can have stative or dynamic meanings” (Sakel 2004: 236), qualities often associated with passives, antipassives, and/or anticausative in the literature. Sakel (2004: 307, 479) only provides one example of the anticausative use of the suffix *-ki*, yet she explicitly states that the suffix can express “spontaneous events” and notes that such events “are sometimes called ‘anticausative’”, and it is therefore assumed that the function in question is productive with other verbs as well. Glossed examples of the passive-antipassive syncretism in the language have already been provided in §4.2.4 (see examples 10a–10d on page 93).

Table 5.5: Passive-antipassive-anticausative syncretism

| Mosetén (Sakel 2004: 306ff.) | | | | | |
|------------------------------|-------------------|-------------------|---|----------------------|-------------------------|
| PASS | <i>jeb-i-</i> | ‘to eat sth.’ | ↔ | <i>jeb-a-ki-</i> | ‘to be eaten [by sb.]’ |
| PASS | <i>raem’-yi-</i> | ‘to bite sb.’ | ↔ | <i>raem’-ya-ki-</i> | ‘to be bitten [by sb.]’ |
| ANTP | <i>karij-tyi-</i> | ‘to work on sth.’ | ↔ | <i>karij-tya-ki-</i> | ‘to work on [sth.]’ |
| ANTP | <i>san-i-</i> | ‘to write sth.’ | ↔ | <i>san-a-ki-</i> | ‘to write [sth.]’ |
| ANTC | <i>jofor’-yi-</i> | ‘to open sth.’ | ↔ | <i>jofor’-ya-ki-</i> | ‘to open’ |

Another language in the sample, the Central Salish language Musqueam (NA), features syncretism superficially similar to that described for Mosetén above. In Musqueam the suffix *-m* serves as voice marking in both the passive and anticausative voices. As discussed in §2.2.2, the suffix even has an “antipassive-like” function shown alongside the passive and anticausative functions in Table 5.6. However, as the suffix does not have a proper antipassive function, passive-antipassive-anticausative syncretism is not acknowledged for Musqueam here. In any case, observe that in the passive voice the suffix *-m* is added onto a verbal stem, but in the antipassive-like and anticausative voices the suffix is in variation with verbal marking in the contrasting diatheses according to which they are defined (*-t*). The difference in vowel length between the verbal forms *hí:l-* and *híl-* is morphophonologically conditioned (Suttles 2004: 147f.).

Table 5.6: Passive-“antipassive”-anticausative syncretism

| Musqueam (Suttles 2004: 35, 43, 51, 230f., 447f.) | | | | | |
|---|----------------|--------------------|---|------------------|------------------------------|
| PASS | <i>céw-ɣt</i> | ‘to help sb.’ | ↔ | <i>céw-ɣt-əm</i> | ‘to be helped [by sb.]’ |
| PASS | <i>kʷlé-t</i> | ‘to tip sth. over’ | ↔ | <i>kʷlé-t-əm</i> | ‘to be tipped over [by sb.]’ |
| “ANTP” | <i>kʷón-ət</i> | ‘to get/take sth.’ | ↔ | <i>kʷón-əm</i> | ‘to get [sth.]’ |
| “ANTP” | <i>kʷxé-t</i> | ‘to count sth.’ | ↔ | <i>kʷxé-m</i> | ‘to count [sth.]’ |
| ANTC | <i>hí:l-t</i> | ‘to roll sth.’ | ↔ | <i>híl-əm</i> | ‘to roll’ |
| ANTC | <i>pḱʷǎ-t</i> | ‘to scatter sth.’ | ↔ | <i>pḱʷǎ-m</i> | ‘to splash/billow out’ |

5.2.2 Antipassive-reflexive-*

Complex voice syncretism involving the antipassive and reflexive voices is particularly noteworthy in the Oto-Manguean language Acazulco Otomí, the Southern Iroquoian language Cherokee (both NA), the Tacanan language Ese Ejja (SA), and the Northern Chukotko-Kamchatkan language Chukchi (EA) which all feature antipassive-reflexive-reciprocal-anticausative syncretism. Similar syncretism has been observed for other languages sporadically in the literature (e.g. [Letuchiy 2007](#): 780ff on the Northwest Caucasian language Adyghe). The syncretism in Acazulco Otomí, Ese Ejja and Chukchi qualifies as type 1a syncretism and is illustrated in Table 5.7. In Cherokee the syncretism qualifies as type 1b syncretism.

In Acazulco Otomí antipassive-reflexive-reciprocal-anticausative syncretism is characterised by the nasal prefix *n-* with the allomorphs *m-*, *nt-* (before /x/), and *ntx-* (before a glottal fricative or stop). [Hernández-Green \(2015: 512, 525\)](#) explicitly remarks that the extensive syncretism of this suffix is productive but does not otherwise discuss the suffix further. In Ese Ejja the circumfix *xa-...-ki* serves as voice marking in the antipassive, reflexive, reciprocal, and anticausative voices. As already noted in §4.2.4, [Vuillermet \(2012: 519\)](#) even suggests that the circumfix can have a “passive-like” function which, however, does not qualify as proper passive in this book, for which reason it is not included in Table 5.7. Next, antipassive-reflexive-reciprocal-anticausative syncretism in Chukchi is characterised by the suffix *-tku/-tko* conditioned by vowel harmony which [Nedjalkov \(2006: 221\)](#) tellingly has been called “the most polysemous suffix” in the language. Only one example of its anticausative use is provided in Table 5.7, yet both [Kurebito \(2012: 186\)](#) and [Nedjalkov \(2006: 222\)](#) explicitly mention that the suffix has such use. Indeed, [Nedjalkov \(2006: 222\)](#) considers the anticausative function one of the default readings of the suffix. Thus, although only [Nedjalkov](#) provides an explicit anticausative example of the suffix *-tku/-tko*, the anticausative function is here assumed to be productive with other verbs as well. The schwa in the verb *ukwet-ə-tku-* is simply epenthetic.

Antipassive-reflexive-reciprocal-anticausative type 1b syncretism in Cherokee is exemplified in Table 5.8. As described in §3.2.2, Cherokee has what [Montgomery-Anderson \(2008: 343, 347\)](#) calls a “reflexive prefix” *at-/ataa(t)-* serving as voice marking in the antipassive, reflexive, and reciprocal voices; and a “middle voice prefix” *at-/ataa-/ali-* serving as voice marking in the anticausative voice. The former prefix has the allomorphs *at-* (before the vowel /a/), *ataat-* (before all other vowels), and *ataa-* (before all consonants); while the latter prefix has the allomorphs *at-* (before all vowels), *ali-* (before the consonant /h/ and seemingly also before /s/ and /n/), and *ataa-* (before all other consonants). Evidently, the

Table 5.7: Antipassive-reflexive-reciprocal-anticausative syncretism

| Acazolco Otomí (Hernández-Green 2015: 294, 513) | | | | | |
|---|------------------|--------------------|---|------------------------|---------------------|
| ANTP | <i>pèni</i> | ‘to wash sth.’ | ↔ | <i>m-pèni</i> | ‘to wash [sth.]’ |
| ANTP | <i>tài</i> | ‘to buy sth.’ | ↔ | <i>n-tài</i> | ‘to buy [sth.]’ |
| REFL | <i>hế’t</i> | ‘to see sth.’ | ↔ | <i>ntx-hế’t</i> | ‘to see self’ |
| REFL | <i>hò</i> | ‘to hit sth.’ | ↔ | <i>ntx-hò</i> | ‘to hit self’ |
| RECP | <i>hò</i> | ‘to hit sth.’ | ↔ | <i>ntx-hò</i> | ‘to hit e.o.’ |
| RECP | <i>tsúi</i> | ‘to scold sb.’ | ↔ | <i>n-tsúi</i> | ‘to scold e.o.’ |
| ANTC | <i>kó’mbi</i> | ‘to cover sth.’ | ↔ | <i>n-kó’mbi</i> | ‘to cover up’ |
| ANTC | <i>phàgi</i> | ‘to spill sth.’ | ↔ | <i>m-phàgi</i> | ‘to spill’ |
| Ese Ejja (Vuillermet 2012: 520ff.) | | | | | |
| ANTP | <i>ba-</i> | ‘to see sth.’ | ↔ | <i>xa-ba-ki-</i> | ‘to see [sth.]’ |
| ANTP | <i>iña-</i> | ‘to grab sth.’ | ↔ | <i>xa-iña-ki-</i> | ‘to grab [sth.]’ |
| REFL | <i>jabe-</i> | ‘to comb sb.’ | ↔ | <i>xa-jabe-ki-</i> | ‘to comb self’ |
| REFL | <i>paa-</i> | ‘to cover sth. up’ | ↔ | <i>xa-paa-ki-</i> | ‘to cover self up’ |
| RECP | <i>nabatoxo-</i> | ‘to kiss sb.’ | ↔ | <i>xa-nabatoxo-ki-</i> | ‘to kiss e.o.’ |
| RECP | <i>kwy-</i> | ‘to hit sth.’ | ↔ | <i>xa-kwy-ki-</i> | ‘to hit e.o.’ |
| ANTC | <i>isa-</i> | ‘to tear sth.’ | ↔ | <i>xa-isa-ki-</i> | ‘to tear’ |
| ANTC | <i>saja-</i> | ‘to break sth.’ | ↔ | <i>xa-saja-ki-</i> | ‘to break’ |
| Chukchi (Nedjalkov 2006: 220ff. Kurebito 2012: 186) | | | | | |
| ANTP | <i>juu-</i> | ‘to bite sb.’ | ↔ | <i>juu-tku-</i> | ‘to bite [sb.]’ |
| ANTP | <i>penrə-</i> | ‘to fall on sth.’ | ↔ | <i>penrə-tko-</i> | ‘to fall on [sth.]’ |
| REFL | <i>lpiw-</i> | ‘to cut sth.’ | ↔ | <i>lpiw-tku-</i> | ‘to cut self’ |
| REFL | <i>ittil-</i> | ‘to hit sth.’ | ↔ | <i>ittil-tku-</i> | ‘to hit self’ |
| RECP | <i>ukwet-</i> | ‘to kiss sb.’ | ↔ | <i>ukwet-ə-tku-</i> | ‘to kiss e.o.’ |
| RECP | <i>lʔu-</i> | ‘to see sth.’ | ↔ | <i>lʔu-tku-</i> | ‘to see e.o.’ |
| ANTC | <i>ejpə-</i> | ‘to close sth.’ | ↔ | <i>ejpə-tku-</i> | ‘to close’ |

allomorphs of the two prefixes overlap under certain phonological conditions, namely before the vowel /a/ and before consonants other than /h/, /s/, and /n/. Furthermore, observe that verbs in Cherokee have five stems that “express different grammatical information about the tense, aspect, and mood” (Montgomery-Anderson 2008: 252). These different stems are “present continuous”, “incomplete”, “immediate”, “completive”, and “deverbal noun” (for instance used with

5 Complex voice syncretism

auxiliary verbs). For example, the five stems of the verb ‘to help sb.’ are *-steeliha*, *-steeliisk*, *-steéla*, *-steelvvh*, and *-stehlt* (Montgomery-Anderson 2008: 224f.). This phenomenon explains the stem-related differences in Table 5.8 (e.g. the stem *-xxjakahl* is completive, while the stem *-jakalvyska* is present continuous). Observe also that the digraph <xx> “indicates that the vowel of the prefix that attaches to the stem is lengthened”, while the digraph <xx̃> indicates that the prefix “has a high tone” (Montgomery-Anderson 2008: xii). The word-initial grapheme <h> in the verb *-xxhliisiha* does not represent the phoneme /h/ but forms part of the digraphs <hl> representing the phoneme /h/.

Table 5.8: Antipassive-reflexive-reciprocal-anticausative syncretism

| Cherokee (Montgomery-Anderson 2008: 201, 249, 275, 345, 366, 371, 373f., 382) | | | | | |
|---|--------------------|--------------------|---|-------------------------|----------------------|
| ANTP | <i>-steelvvh</i> | ‘to help sb.’ | ↔ | <i>-ataa-stehlt</i> | ‘to help [sb.]’ |
| ANTP | <i>-oliikka</i> | ‘to recognise sb.’ | ↔ | <i>-ataat-oliikka</i> | ‘to recognise [sb.]’ |
| REFL | <i>-oliikka</i> | ‘to recognise sb.’ | ↔ | <i>-ataat-oliikka</i> | ‘to recognise self’ |
| RECP | <i>-steelvvh</i> | ‘to help sb.’ | ↔ | <i>-ataat-steelvvh</i> | ‘to help e.o.’ |
| REFL | <i>-kohwthiha</i> | ‘to see sth.’ | ↔ | <i>-ataa-kohwthiha</i> | ‘to see self’ |
| RECP | <i>-kooh</i> | ‘to see sth.’ | ↔ | <i>-ataa-kooh</i> | ‘to see e.o.’ |
| ANTC | <i>-xxhliisiha</i> | ‘to gather sth.’ | ↔ | <i>-ataa-xxhliisiha</i> | ‘to gather’ |
| ANTC | <i>-xxjakahl</i> | ‘to rip sth.’ | ↔ | <i>-ataa-jakalvyska</i> | ‘to rip’ |

Two other patterns of complex antipassive syncretism are attested in the language sample, antipassive-reflexive-reciprocal syncretism and antipassive-reflexive-anticausative syncretism. The former pattern is attested in the Katukinan language Katukina-Kanamari (SA) and the Mangarrayi-Maran language Mangarrayi (AU), while the latter pattern is attested in the language isolate Oksapmin (PN). The Gunwinyguan language Nunggubuyu (AU) features both patterns. Antipassive-reflexive-reciprocal syncretism is illustrated for Katukina-Kanamari, Mangarrayi and Nunggubuyu in Table 5.9, whereas antipassive-reflexive-anticausative syncretism is illustrated for Nunggubuyu and Oksapmin in Table 5.10. In Katukina-Kanamari antipassive-reflexive-reciprocal syncretism is characterised by an “intransitiviser” (*intransitivizador*) with the allomorphs *-i* (after /k/), *-k* (after the vowel /u/), and *-hik* (after /ŋ/ and all vowels but /u/, dos Anjos 2011: 121ff.). Considering the notable phonological differences between these allomorphs, for comparative purposes the examples should ideally have featured the same allomorphs. Unfortunately, dos Anjos does not provide any clear antipassive examples involving the allomorphs *-k* or *-i* nor any clear reflexive and reciprocal

Table 5.9: Antipassive-reflexive-reciprocal syncretism

| Katukina-Kanamari (dos Anjos 2011: 121ff., 138, 336, 342f., 346f., 381) | | | | | |
|---|--------------------------|-----------------------------|---|-------------------------------|-------------------------------|
| ANTP | <i>tyaman</i> | ‘to cut sth.’ | ↔ | <i>tyaman-hik</i> | ‘to cut [sth.]’ |
| ANTP | <i>topohan</i> | ‘to blow sth.’ | ↔ | <i>topohan -hik</i> | ‘to blow [sth.]’ |
| REFL | <i>uu</i> | ‘to like sth.’ | ↔ | <i>uu-k</i> | ‘to like self’ |
| REFL | <i>hi:k</i> | ‘to see sth.’ | ↔ | <i>hi:k-i</i> | ‘to see self’ |
| RECP | <i>pu</i> | ‘to eat sth.’ | ↔ | <i>pu-k</i> | ‘to eat e.o.’ |
| RECP | <i>tohi:k</i> | ‘to look at sth.’ | ↔ | <i>tohi:k-i</i> | ‘to look at e.o.’ |
| Mangarrayi (Merlan 1989: 95f., 135f., 154f., 220) | | | | | |
| ANTP | <i>gurwa-</i> | ‘to encircle sth.’ | ↔ | <i>gurwa-jiyi-</i> | ‘to encircle [sth.]’ |
| ANTP | <i>miwu-</i> | ‘to sneak away from sb.’ | ↔ | <i>miwu-jiyi-</i> | ‘to sneak away from [sb.]’ |
| REFL | <i>wa-</i> | ‘to look at sth.’ | ↔ | <i>wa-ñjiyi-</i> | ‘to look at self’ |
| REFL | <i>bu-</i> | ‘to hit sb.’ | ↔ | <i>bu-yi-</i> | ‘to hit self’ |
| RECP | <i>bu-</i> | ‘to hit sb.’ | ↔ | <i>bu-yi-</i> | ‘to hit e.o.’ |
| RECP | <i>ɲaniwu-</i> | ‘to speak to sb.’ | ↔ | <i>ɲaniwu-jiyi-</i> | ‘to talk to e.o.’ |
| Nunggubuyu (Heath 1984: 392) | | | | | |
| ANTP | <i>lharma-</i> | ‘to chase sth.’ | ↔ | <i>lharma-nʷji-</i> | ‘to chase [sth.]’ |
| ANTP | <i>wargura-</i> | ‘to carry sth.’ | ↔ | <i>warguri-nʷji-</i> | ‘to carry [sth.]’ |
| REFL | <i>wan^ga-</i> | ‘to bite sth.’ | ↔ | <i>wan^gi-nʷji-</i> | ‘to bite self’ |
| REFL | <i>ra-</i> | ‘to spear sth.’ | ↔ | <i>ri-nʷji-</i> | ‘to spear self’ |
| RECP | <i>wan^ga-</i> | ‘to bite sth.’ | ↔ | <i>wan^gi-nʷji-</i> | ‘to bite e.o.’ |
| RECP | <i>ra-</i> | ‘to spear sth.’ | ↔ | <i>ri-nʷji-</i> | ‘to spear e.o.’ |

examples involving the allomorph *-hik*. The verb *kuni-hik* ‘to bite self’ (dos Anjos 2011: 122) does represent a reflexive voice if it is assumed that a verb [?]*kuni* with the meaning ‘to bite sth.’ exists in the language (the verb in question is not explicitly given in dos Anjos’ grammar). Nevertheless, since the three voices are described as featuring the same voice marking with the same allomorphs, it is assumed that each allomorph can serve productively as voice marking in the antipassive, reflexive, and reciprocal voices in the language. Observe that the verb *uu* in Table 5.9 also appears variously as *uu* and *wu* in dos Anjos’ grammar.

5 Complex voice syncretism

In Mangarrayi the suffix *-yi/-(*ñ*)jiyi* typically serves as voice marking in either the reflexive or reciprocal voice, but “[i]n a few cases” (Merlan 1989: 136) the suffix can even have an antipassive function, as shown in Table 5.9. This table also illustrates antipassive-reflexive-reciprocal syncretism in the other Australian language, Nunggubuyu, characterised by the suffix *-n^yji*. Observe that “the root-final vowel may change to /i/” before this suffix “depending on verb class” (Heath 1984: 101f., 392). Moreover, note that the verb *lharma-n^yji-* also can have the meaning ‘to chase e.o.’, but the verb *wargu-ri-n^yji-* cannot have the meaning ‘to carry e.o. on shoulder’ as this sense is “semantically awkward since carrying on shoulder is intrinsically nonreciprocal” (Heath 1984: 392).

Table 5.10: Antipassive-reflexive-anticausative syncretism

| Nunggubuyu (Heath 1984: 390, 394) | | | |
|---|---------------------|------------------------------|-----------------------|
| ANTP <i>yalgiwa-</i> | ‘to pass sth.’ | ↔ <i>yalgiw-i-</i> | ‘to pass [sth.]’ |
| ANTP <i>wurama-</i> | ‘to go around sth.’ | ↔ <i>wuram-i-</i> | ‘to go around [sth.]’ |
| REFL <i>na-</i> | ‘to see sth.’ | ↔ <i>n-i-</i> | ‘to see self’ |
| REFL <i>lhamalhama-</i> | ‘to praise sth.’ | ↔ <i>lhamalhama-i-</i> | ‘to praise self’ |
| ANTC <i>lalaga-</i> | ‘to raise sth.’ | ↔ <i>lalag-i-</i> | ‘to get up’ |
| ANTC <i>n^ganda-</i> | ‘to sink sth.’ | ↔ <i>n^gand-i-</i> | ‘to sink’ |
| Oksapmin (Loughnane 2009: 239ff., 301, 369) | | | |
| ANTP <i>xtol</i> | ‘to look at sth.’ | ↔ <i>t-xtol</i> | ‘to look at [sth.]’ |
| ANTP <i>aŋ de-/ml-</i> | ‘to look for sth.’ | ↔ <i>aŋ t-x-</i> | ‘to look for [sth.]’ |
| REFL <i>gəx de-/ml-</i> | ‘to wash sth.’ | ↔ <i>gəx t-x-</i> | ‘to wash self’ |
| ANTC <i>dpəlkwe</i> | ‘to turn sth. over’ | ↔ <i>t-dpəlkwe</i> | ‘to turn over’ |
| ANTC <i>dəlpə</i> | ‘to beget sth.’ | ↔ <i>t-dəlpə</i> | ‘to begin’ |

By contrast, antipassive-reflexive-anticausative syncretism in Nunggubuyu is characterised by the suffix *-i*, as shown in Table 5.10. Observe that the combination of a root-final vowel and this suffix results in the phoneme /i(:)/ (Heath 1984: 98ff.) and that the meaning of the verb *n^ganda-* is more precisely ‘to throw sth. into water’. It is also worth noting that the antipassive use of the suffix *-i* is only “limited to a few verbs” (Heath 1984: 390). Table 5.10 also illustrates antipassive-reflexive-anticausative syncretism in Oksapmin characterised by the prefix *t-*. Note that “[c]omplex predicates consisting of a coverb plus a light verb are frequently used in Oksapmin” (Loughnane 2009: 310) and in such complex predicates the voice marking is found on the light verb. The choice between the light verbs *de-*

and *ml-* “depends on the particular tense used”, while the use of the light verb *x-* “is triggered by the presence of certain prefixes”, including *t-* (Loughnane 2009: 323). Loughnane (2009: 238ff.) provides only one example of the reflexive use of the prefix in question yet treats reflexivity as one of its three main functions, and it is therefore assumed to be productive.

5.2.3 Applicative-antipassive-reciprocal

Applicative-antipassive-reciprocal syncretism has hitherto only been attested in the Eskimo language Central Alaskan Yupik (NA) in which the syncretism is characterised by the suffix *-ut*, as shown in Table 5.11. See also Mithun (2000: 96ff.) for a discussion and examples of the verb *ikayur-*. The final phoneme *-r* /ʁ/ is omitted before the suffix *-ut* as a result of “intervocalic velar deletion” (Miyaoka 2012: 211f.). The antipassive function of the suffix *-ut* appears to have evolved diachronically from the applicative and reciprocal functions (§7.2.4).

Table 5.11: Applicative-antipassive-reciprocal syncretism

| Central Alaskan Yupik (Miyaoka 2012: 656, 844, 915ff., 929, 953, 1091) | | | | | |
|--|----------------|----------------|---|-------------------|------------------------|
| APPL | <i>ner-</i> | ‘to eat sth.’ | ↔ | <i>ner-ut-</i> | ‘to eat sth. with sb.’ |
| APPL | <i>kenir-</i> | ‘to cook sth.’ | ↔ | <i>keni-ut-</i> | ‘to cook sth. for sb.’ |
| ANTP | <i>nalaq-</i> | ‘to find sth.’ | ↔ | <i>nalaq-ut-</i> | ‘to find [sth.]’ |
| ANTP | <i>ikayur-</i> | ‘to help sb.’ | ↔ | <i>ikayu-ut-</i> | ‘to help [sb.]’ |
| RECP | <i>ikayur-</i> | ‘to help sb.’ | ↔ | <i>ikayu-ut-</i> | ‘to help e.o.’ |
| RECP | <i>tangrr-</i> | ‘to see sth.’ | ↔ | <i>tangrr-ut-</i> | ‘to see e.o.’ |

5.3 Causative syncretism

Five patterns of complex causative voice syncretism are attested in the language sample (see Table 5.1 on page 127), though only three of the patterns have been attested exclusively as type 1 syncretism: causative-passive-reflexive-reciprocal syncretism, causative-passive-anticausative syncretism, and causative-applicative-passive syncretism. The remaining two patterns of complex causative voice syncretism involve some partial resemblance and thus represent type 2 syncretism: causative-passive-reciprocal syncretism and causative-reflexive-anticausative syncretism. Each of these patterns is discussed in the following sections.

5.3.1 Causative-passive-*

Complex causative voice syncretism involving both the causative and passive voices is attested in three languages in the sample: the North Omotic language Wolaytta (AF), the language isolate Korean (EA), and the Arawakan language Yine (SA). As already discussed in §3.2.2, the former language features causative-passive-reflexive-reciprocal syncretism characterised by the suffix *-ett*, as illustrated in Table 5.12. Unlike in the causative voice, this suffix can have a high pitch (*-étt*) in the passive, reflexive, and reciprocal voices. The pitch of the suffix in the latter voices is dependent on the “tonal prominence” of the stem to which it is attached: the allomorph *-ett* is found on stems with tonal prominence, whereas the allomorph *-étt* is found on stems without tonal prominence (Wakasa 2008: 84ff., 1013). Observe that “[w]hen a base stem ends in a geminated consonant, it is usually reduced to a single consonant” when the suffix *-ett* or *-étt* is attached (Wakasa 2008: 1014). The “most salient” use of the suffix *-ett* is passive, yet its reciprocal functions appears to be common as well (Wakasa 2008: 1022ff.). In turn, the reflexive use is rather marginal although “there are indeed examples” in which the suffix is used to “express reflexive situations” (Wakasa 2008: 1028). It is unclear how productive the causative suffix is, as Wakasa (2008: 1005ff.) simply mentions it alongside other means of marking causativity in the language.

Table 5.12: Causative-passive-reflexive-reciprocal syncretism

| Wolaytta (Wakasa 2008: 734, 988, 1008, 1013f., 1022, 1029) | | | | | |
|--|---------------|-------------------|---|-------------------|----------------------------|
| CAUS | <i>Ceegg-</i> | ‘to become old’ | ↔ | <i>Ceeg-ett-</i> | ‘to make sth. old’ |
| CAUS | <i>bal-</i> | ‘to err’ | ↔ | <i>bal-ett-</i> | ‘to make sb. err’ |
| PASS | <i>dóór-</i> | ‘to pile sth. up’ | ↔ | <i>dóór-ett-</i> | ‘to be piled up [by sb.]’ |
| PASS | <i>dog-</i> | ‘to forget sth.’ | ↔ | <i>dog-étt-</i> | ‘to be forgotten [by sb.]’ |
| REFL | <i>meeCC-</i> | ‘to wash sth.’ | ↔ | <i>meeC-ett-</i> | ‘to wash self’ |
| REFL | <i>bonc-</i> | ‘to respect sb.’ | ↔ | <i>bonc-étt-</i> | ‘to respect self’ |
| RECP | <i>gílil-</i> | ‘to tickle sb.’ | ↔ | <i>gílil-ett-</i> | ‘to tickle e.o.’ |
| RECP | <i>zor-</i> | ‘to advise sb.’ | ↔ | <i>zor-étt-</i> | ‘to advise e.o.’ |

In Korean the suffix *-(C)i* can serve as voice marking in the causative, passive, and anticausative voices, as shown in Table 5.13. This syncretism is particularly interesting from a diachronic perspective because the passive and anticausative functions both seem to have developed from the causative function, as further discussed in §7.5.1 and §7.5.2.

Table 5.13: Causative-passive-anticausative syncretism

| Korean (Baek 1997: 82f.; Sohn 1999: 369, 375) | | | | | |
|---|--------------|-----------------|---|-----------------|-------------------------|
| CAUS | <i>cwul-</i> | ‘to decrease’ | ↔ | <i>cwul-li-</i> | ‘to decrease sth.’ |
| CAUS | <i>nwup-</i> | ‘to lie down’ | ↔ | <i>nwup-hi-</i> | ‘to lay sth.’ |
| PASS | <i>kkul-</i> | ‘to pull sth.’ | ↔ | <i>kkul-li-</i> | ‘to be pulled [by sb.]’ |
| PASS | <i>mek-</i> | ‘to eat sth.’ | ↔ | <i>mek-hi-</i> | ‘to be eaten [by sb.]’ |
| ANTC | <i>yel-</i> | ‘to open sth.’ | ↔ | <i>yel-li-</i> | ‘to open’ |
| ANTC | <i>mak-</i> | ‘to block sth.’ | ↔ | <i>mak-hi-</i> | ‘to block’ |

Finally, as illustrated in Table 5.14, in Yine the suffix *-ka* serves as voice marking in the passive voice and bears only partial resemblance with the suffix *-kaka* found in the causative and reciprocal voices. Hanson (2010: 268f.) only provides a single example of the reciprocal function of the latter suffix, yet her discussion of this function clearly suggests that it is productive. Diachronically, the former suffix has been linked to both passivity and causativity (Wise 1990), and the latter suffix to reciprocity, comitativity, and causativity (§7.2.5).

Table 5.14: Causative-passive-reciprocal syncretism

| Yine (Hanson 2010: 191, 211, 265, 269ff.) | | | | | |
|---|-----------------|----------------------|---|----------------------|-------------------------------|
| CAUS | <i>-halna</i> | ‘to fly’ | ↔ | <i>-halna-kaka</i> | ‘to make sth. fly’ |
| CAUS | <i>-himata</i> | ‘to know’ | ↔ | <i>-himata-kaka</i> | ‘to make sb. know’ |
| RECP | <i>-hiylaka</i> | ‘to hit sth.’ | ↔ | <i>-hiylaka-kaka</i> | ‘to hit e.o.’ |
| PASS | <i>-hiylata</i> | ‘to kill sb.’ | ↔ | <i>-hiylata-ka</i> | ‘to be killed [by sb.]’ |
| PASS | <i>-hiçha</i> | ‘to search for sth.’ | ↔ | <i>-hiçha-ka</i> | ‘to be searched for [by sb.]’ |

5.3.2 Causative-reflexive-anticausative

Causative-reflexive-anticausative syncretism has hitherto only been attested in the Northern Chukotko-Kamchatkan language Chukchi (EA), and is characterised by both full and partial resemblance in voice marking. In this language the suffix *-et/-at* serves as voice marking in the reflexive and anticausative voices, as well as in the causative voice accompanied by the prefix *r-/n-* forming a circumfix. The allomorphs of the prefix are conditioned by its position on the verb: the

prefix *r-* appears word-initially while *n-* appears elsewhere (Dunn 1999: 51). The syncretism in Chukchi is illustrated in Table 5.15. Nevertheless, note that the anticausative function of the suffix is marginal. Indeed, Dunn (1999: 21) argues that it is “not systematic or productive” and Kurebito (2012: 187) states that there are only three “anticausative verbs formed by adding the suffix”. Finally, observe that the schwa in the verb *r/n-ə-lw-et* is simply epenthetic.

Table 5.15: Causative-reflexive-anticausative syncretism

| Chukchi (Dunn 1999: 256; Stenin 2017: 6; Kurebito 2012: 186f.) | | | | | |
|--|--------------|------------------|---|--------------------|-----------------|
| CAUS | <i>lw</i> | ‘to burn’ | ↔ | <i>r/n-ə-lw-et</i> | ‘to burn sth.’ |
| CAUS | <i>went</i> | ‘to open’ | ↔ | <i>r/n-went-et</i> | ‘to open sth.’ |
| REFL | <i>getw</i> | ‘to stab sb.’ | ↔ | <i>getw-et</i> | ‘to stab self’ |
| REFL | <i>ejup</i> | ‘to prick sb.’ | ↔ | <i>ejup-et</i> | ‘to prick self’ |
| ANTC | <i>ejp</i> | ‘to close sth.’ | ↔ | <i>ejp-et</i> | ‘to close’ |
| ANTC | <i>tejwŋ</i> | ‘to divide sth.’ | ↔ | <i>tejwŋ-et</i> | ‘to divide’ |

5.3.3 Causative-applicative-passive

Causative-applicative-passive syncretism characterised exclusively by full resemblance in voice marking is attested in the language isolate Kutenai (NA). Morgan (1991: 300) argues that the so-called “Transitive-Ditransitive Suffix” *-(i)t* in this language has two functions: a “simple transitive function” and a “ditransitive function”, qualifying as causative and applicative, respectively. Additionally, Morgan (1991: 301) argues that the language has the “Passive Suffix” *-(i)t*. Although he makes “a clear distinction” in writing between the causative-applicative suffix *-(i)t* and the passive suffix *-(i)t*, he admits that they have “the same form” and “it would appear that these two suffixes are related”. The syncretism is illustrated in Table 5.16. Morgan only provides one example of the causative use of the suffix *-(i)t*, yet his description discussion of the suffix in question suggests that the causative function is indeed productive. Causative-applicative-passive syncretism in the Panoan language Chácobo (SA) is slightly different than that found in Kutenai as it is based on both full and partial resemblance in voice marking. More specifically, in Chácobo the suffix *-ʔak* serves as voice marking in both the causative and applicative voices, while the suffix *-ʔaká* serves as voice marking in the passive voice. This syncretism is also illustrated in Table 5.16. Tallman (2018: 644) argues that the passive suffix likely is historically composed of

the causative-applicative suffix *-ʔak* and the plural clitic *=kán*, noting that /k/ in coda position is “always deleted” while /n/ in coda position is “deleted in most morphosyntactic contexts”. The suffix *-ʔak* itself ultimately “seems to be related diachronically to the transitive verb root *ak* ‘make, do, hit’” (Tallman 2018: 652).

Table 5.16: Causative-applicative-passive syncretism

| Kutenai (Morgan 1991: 291f., 300, 305f., 363, 377) | | | |
|---|-----------------|---------------------------|---------------------------|
| CAUS <i>ʔup</i> | ‘to die’ | ↔ <i>ʔup-iʔ</i> | ‘to kill sb.’ |
| APPL <i>haʔuqʔawut</i> | ‘to fish’ | ↔ <i>haʔuqʔawut-iʔ</i> | ‘to fish for sth.’ |
| APPL <i>qa-kiʔ</i> | ‘to say sth.’ | ↔ <i>qa-ki-iʔ</i> | ‘to say/tell sb. sth.’ |
| PASS <i>ʔiktuquʔ</i> | ‘to wash sth.’ | ↔ <i>ʔiktuquʔ-iʔ</i> | ‘to be washed [by sb.]’ |
| PASS <i>piʕ-quwaʔt-iʔ</i> | ‘to shear sth.’ | ↔ <i>piʕ-quwaʔt-iʔ-iʔ</i> | ‘to get sheared [by sb.]’ |
| Chácobo (Tallman 2018: 620, 629, 636, 651ff., 656f., 675) | | | |
| CAUS <i>yaho</i> | ‘to shake’ | ↔ <i>yaho-ʔak</i> | ‘to shake sth.’ |
| CAUS <i>baha</i> | ‘to be bright’ | ↔ <i>baha-ʔak</i> | ‘to brighten sth.’ |
| APPL <i>kofo</i> | ‘to spit’ | ↔ <i>kofo-ʔak</i> | ‘to spit on sb.’ |
| APPL <i>soo</i> | ‘to breathe’ | ↔ <i>soo-ʔak</i> | ‘to breathe on sb.’ |
| PASS <i>rota</i> | ‘to hang sth.’ | ↔ <i>rota-ʔaká</i> | ‘to be hung [by sb.]’ |
| PASS <i>pi</i> | ‘to eat sth.’ | ↔ <i>pi-ʔaká</i> | ‘to be eaten [by sb.]’ |

5.4 Permic and Slavic voice syncretism

The most complex pattern of voice syncretism attested in the language sample is passive-antipassive-reflexive-reciprocal-anticausative syncretism. This kind of syncretism is rare, not only because it is attested in only one language in the sample, but because no other pattern of complex syncretism involving five (or more) voices has hitherto been attested. The language in the sample featuring the syncretism in question is the Permic language Udmurt (EA) which has already been mentioned sporadically in the previous chapter. As illustrated in Table 5.17, passive-antipassive-reflexive-reciprocal-anticausative syncretism in this language is characterised by the suffix *-šk*. As also shown in the table, the closely related language Komi features the same kind of syncretism, characterised by the cognate suffix *-ś*. Bartens (2000: 284) notes that the antipassive function of the suffixes in Udmurt and Komi often is associated with some degree of habitual-

ity, which is not surprising from a cross-linguistic perspective (Polinsky 2017). Additionally, the suffixes can in some contexts have a resultative-like function (e.g. Komi *kyvyz* ‘to hear/listen’ ↔ *kyvyz-yś* ‘to have heard enough’, Bartens 2000: 285), and in Udmurt the suffix *-śk* even serves as a present tense marker (e.g. Udmurt *myn-iśk-omy* ‘we go’, cf. Komi *mun-am* ‘we go’, Bartens 2000: 179ff.). The suffixes have been reconstructed **-śk* for Proto-Permic, but the exact development of the many functions of the suffix remains a topic of debate (for an overview of different theories and hypotheses, see Kozmács 2003: 168ff.).

As noted in §3.1.3, Geniušienė (1987) lists reflexive, reciprocal, “decausative” (anticausative), passive, and “absolute” (antipassive) functions for “suffixes containing *-d-* or *-z-*” in the Ugric language Hungarian (EA), which is distantly related to Udmurt and Komi. However, Geniušienė does not actually differentiate between the many suffixes that she refers to (e.g. *-od*, *-oz*, *-kod*, *-koz*, inter alia) and in reality it seems that no single suffix can serve as voice marking in each of the five voices (for an overview of the various markers and their individual functions, see Károly 1982). The same is true for the prefixes *na-* and *nii-* in the Uto-Aztec language Shoshoni (NA) also briefly discussed in §3.1.3. In fact, so far it has only been possible to find one other language featuring passive-antipassive-reflexive-reciprocal-anticausative syncretism, the Slavic language Russian (EA). As illustrated in Table 5.17 alongside Udmurt and Komi, in Russian the syncretism is characterised by the suffix *-sja/-s’* (see, e.g., Nedjalkov & Sil’nickij 1969: 40ff.; Faltz 1985: 11f.; Gerritsen 1990; Israeli 1997; Kazenin 2001a: 902; Knjazev 2007: 680f.; Malchukov 2015: 113f.; 2017: 7f.). The diachrony of the syncretism in Russian is better known than in the Permic languages, and in the next chapter it is described how the suffix *-sja/-s’* ultimately descends from the Proto-Indo-European reflexive pronoun **s(u)e* (Kulikov 2010: 397; 2013: 276). Finally, it might be worth noting that Udmurt, Komi, and Russian are spoken in close proximity to each other, and it is not unlikely that the languages have influenced each other with regard to the functional scope of the voice marking in the respective languages.

5.5 Overview

As demonstrated in this chapter, seventeen patterns of complex voice syncretism have been attested in the language sample (see Table 5.1 on page 127). As 99 patterns of complex voice syncretism can logically be posited given the seven voices of focus in this book, there are thus 82 patterns that currently remain unattested altogether. Furthermore, it is worth noting that two of the seventeen attested patterns of complex voice syncretism covered in this chapter feature

Table 5.17: PASS-ANTP-REFL-RECP-ANTC syncretism

| Udmurt (Perevoščikov 1962: 226f. Kirillova 2008: 573; Winkler 2011: 122; Tánczos 2014: 306f., 310ff.) | | | | |
|---|------------------|------------------------|------------------------|-----------------------------|
| PASS | <i>kvašt-</i> | ‘to dry sth.’ | ↔ <i>kvašt-išk-</i> | ‘to be dried [by sb.]’ |
| PASS | <i>ušt-</i> | ‘to open sth.’ | ↔ <i>ušt-išk-</i> | ‘to be opened [by sb.]’ |
| ANTP | <i>kopa-</i> | ‘to hoe sth.’ | ↔ <i>kopa-šk-</i> | ‘to hoe [sth.]’ |
| ANTP | <i>vur-</i> | ‘to sew sth.’ | ↔ <i>vur-išk-</i> | ‘to sew [sth.]’ |
| REFL | <i>korma-</i> | ‘to scratch sth.’ | ↔ <i>korma-šk-</i> | ‘to scratch self’ |
| REFL | <i>syna-</i> | ‘to comb sb.’ | ↔ <i>syna-šk-</i> | ‘to comb self’ |
| RECP | <i>čupa-</i> | ‘to kiss sb.’ | ↔ <i>čupa-šk-</i> | ‘to kiss e.o.’ |
| RECP | <i>džygyrja-</i> | ‘to embrace sb.’ | ↔ <i>džygyrja-šk-</i> | ‘to embrace e.o.’ |
| ANTC | <i>pytsa-</i> | ‘to close sth.’ | ↔ <i>pytsa-šk-</i> | ‘to close’ |
| ANTC | <i>ušt-</i> | ‘to open sth.’ | ↔ <i>ušt-išk-</i> | ‘to open’ |
| Komi (Bartens 2000: 284f.) | | | | |
| PASS | <i>k’ošav-</i> | ‘to tear sth. down’ | ↔ <i>k’ošav-ś-</i> | ‘to be torn down [by sb.]’ |
| PASS | <i>vöc-</i> | ‘to make/build sth.’ | ↔ <i>vöc-ś-</i> | ‘to be made/built [by sb.]’ |
| ANTP | <i>kyj-</i> | ‘to hunt sth.’ | ↔ <i>kyj-ś-</i> | ‘to hunt [sth.]’ |
| ANTP | <i>dor-</i> | ‘to forge sth.’ | ↔ <i>dor-ś-</i> | ‘to forge [sth.]’ |
| REFL | <i>vi-</i> | ‘to kill sb.’ | ↔ <i>vi-ś-</i> | ‘to kill self’ |
| REFL | <i>lyj-</i> | ‘to shoot sth.’ | ↔ <i>lyj-ś-</i> | ‘to shoot self’ |
| RECP | <i>ad’ž-</i> | ‘to see sth.’ | ↔ <i>ad’ž-yś-</i> | ‘to see e.o.’ |
| RECP | <i>jir-</i> | ‘to bite sth.’ | ↔ <i>jir-ś-</i> | ‘to bite e.o.’ |
| ANTC | <i>šond-</i> | ‘to warm sth.’ | ↔ <i>šond-yś-</i> | ‘to warm’ |
| ANTC | <i>juk-</i> | ‘to divide/split sth.’ | ↔ <i>juk-ś-</i> | ‘to divide/split’ |
| Russian (personal knowledge; cf. Knjazev 2007: 680f. and Malchukov 2017: 7f.) | | | | |
| PASS | <i>stroit’</i> | ‘to build sth.’ | ↔ <i>stroit’-sja</i> | ‘to be built [by sb.]’ |
| PASS | <i>pisat’</i> | ‘to write sth.’ | ↔ <i>pisat’-sja</i> | ‘to be written [by sb.]’ |
| ANTP | <i>kusat’</i> | ‘to bite sth.’ | ↔ <i>kusat’-sja</i> | ‘to bite [sth.]’ |
| ANTP | <i>bodat’</i> | ‘to butt sb.’ | ↔ <i>bodat’-sja</i> | ‘to butt [sb.]’ |
| REFL | <i>myt’</i> | ‘to wash sth.’ | ↔ <i>myt’-sja</i> | ‘to wash self’ |
| REFL | <i>odevat’</i> | ‘to dress sb.’ | ↔ <i>odevat’-sja</i> | ‘to dress self’ |
| RECP | <i>vstretit’</i> | ‘to meet sb.’ | ↔ <i>vstretit’-sja</i> | ‘to meet e.o.’ |
| RECP | <i>celovat’</i> | ‘to kiss sb.’ | ↔ <i>celovat’-sja</i> | ‘to kiss e.o.’ |
| ANTC | <i>slomat’</i> | ‘to break sth.’ | ↔ <i>slomat’-sja</i> | ‘to break’ |
| ANTC | <i>zakryt’</i> | ‘to close sth.’ | ↔ <i>zakryt’-sja</i> | ‘to close’ |

5 *Complex voice syncretism*

some partial resemblance in voice marking (type 1 and type 2 syncretism), while the remaining fifteen patterns are characterised exclusively by full resemblance (type 1 syncretism). For the sake of easy reference, an overview of the various patterns of complex voice syncretism is provided in Table 5.18. The languages are listed in the same order as they have been discussed in the previous sections, and page numbers provide references to examples. Parentheses in the table indicate type 1b syncretism, and square brackets indicate type 2 syncretism.

As briefly mentioned in §5.1, for practical reasons all patterns of middle syncretism have not been illustrated for all languages in which they have been attested. For the sake of transparency, it can here be mentioned that passive-reflexive-anticausative syncretism also is attested in the Germanic language Danish (EA); passive-reflexive-anticausative syncretism also in the Kordofanian language Lumun (AF), the Sino-Tibetan language Dhimal (EA), and the Panoan language Chácobo (SA); and passive-reflexive-reciprocal syncretism also in Páez, the Athapaskan language Tanacross (both NA), Yauyos Quechua, and the language isolate Mosetén (both SA). In the latter three languages the syncretism involves some partial resemblance. Finally, reflexive-reciprocal-anticausative syncretism is also attested in the Semitic language Darfur Arabic (AF), the South-Central Dravidian language Telugu (EA), the language isolate Gaagudju, the Mangrida language Gurr-Goni (both AU), the Yuman language Jamul Tiipay (NA), the Cariban language Panare, the Caribbean Arawakan language Garifuna, the Central Arawakan language Paresi-Haliti (all three SA), and the North Halmaheran language Ternate (PN). In the latter two languages the syncretism in question involves some partial resemblance. The voice marking characterising the syncretism in these seventeen languages can be found in Appendix C.

Table 5.18: Overview of maximal complex voice syncretism

| | Marking | REFL | RECP | ANTC | PASS | ANTP | CAUS | APPL |
|------------|--------------------|------|------|------|------|------|------|----------|
| Armenian | -v | + | + | + | + | | | (p. 128) |
| Nahuatl | mo- | + | + | + | + | | | (p. 128) |
| Yeri | d- | + | + | + | | | | (p. 130) |
| Hup | hup- | + | + | | + | | | (p. 130) |
| Kayardild | -yii/-V | + | | + | + | | | (p. 130) |
| Sidaama | -am | | + | + | + | | | (p. 130) |
| Tatar | -n | + | | + | + | + | | (p. 132) |
| Mosetén | -ki | | | + | + | + | | (p. 133) |
| Otomí | n- | + | + | + | | + | | (p. 135) |
| Ese Ejja | xa-...-ki | + | + | + | | + | | (p. 135) |
| Chukchi | -tku | + | + | + | | + | | (p. 135) |
| Cherokee | at(aa)(t)- | + | + | (+) | | + | | (p. 136) |
| Katukina | -i/-k/-hik | + | + | | | + | | (p. 137) |
| Mangarrayi | -yi/-(ñ)jiyi | + | + | | | + | | (p. 137) |
| Nunggubuyu | -n ^y ji | + | + | | | + | | (p. 137) |
| Nunggubuyu | -i | + | | + | | + | | (p. 138) |
| Oksapmin | t- | + | | + | | + | | (p. 138) |
| Yupik | -ut | | + | | | + | | (p. 139) |
| Wolaytta | -ett/-étt | + | + | | + | | (+) | (p. 140) |
| Korean | -(C)i | | | + | + | | + | (p. 141) |
| Yine | -kaka, [-ka] | | + | | [+] | | + | (p. 141) |
| Chukchi | [r-/n-]...-et | + | | + | | | [+] | (p. 142) |
| Kutenai | -(i)ł | | | | + | | + | (p. 143) |
| Chácobo | -ʔak[á] | | | | [+] | | + | (p. 143) |
| Udmurt | -śk | + | + | + | + | + | | (p. 145) |

6 Distribution of voice syncretism

This chapter provides a distributional overview of voice syncretism in terms of type, frequency, and geography (§6.3). For good measure, this overview also briefly covers the distribution of voices in general (§6.1) as well as dedicated voice marking (§6.2) because voices are a prerequisite for voice syncretism, and voice marking which is not syncretic is per definition restricted to a single voice. The various statistics presented in this chapter are all based on the language sample of this book. The data underlying the statistics can be found in Appendices B and C. Table 6.1 shows the number of languages (each represented by a WALS genus) included in the language sample according to macroarea. The table also shows the number of languages in which at least one voice has been attested (+v) as well as the number of languages in which at least one pattern of voice syncretism has been attested (+vs). The first row of percentages is based on the numbers of genera in WALS according to macroarea (see Table 1.4 on page 7) while the second and third rows of percentages are based on the genera included in this sample (see Table 1.5 on page 8). As seen in the table, close to nine tenth of all the languages in the sample feature at least one voice (88.7 percent), while a little less than half of the languages in the sample feature at least one pattern of voice syncretism (46.8 percent).

Table 6.1: Attestations of voice and voice syncretism in the language sample

| | AF | EA | AU | PN | NA | SA | Σ | | AF | EA | AU | PN | NA | SA | Σ |
|--------|----|----|----|-----|-----|-----|---------|------|------|------|------|-------|------|----------|---|
| WALS | 77 | 82 | 42 | 136 | 101 | 104 | 542 | | | | | | | | |
| Sample | 39 | 41 | 21 | 48 | 36 | 37 | 222 (#) | 50.6 | 50.0 | 50.0 | 35.3 | 35.6 | 35.6 | 41.0 (%) | |
| +v | 33 | 37 | 19 | 38 | 36 | 34 | 197 | 84.6 | 90.2 | 90.5 | 79.2 | 100.0 | 91.9 | 88.7 | |
| +vs | 19 | 20 | 14 | 9 | 19 | 23 | 104 | 48.7 | 48.8 | 66.7 | 18.8 | 52.8 | 62.2 | 46.8 | |

As Table 6.1 shows, the percentual coverage of African, Eurasian, and Australian genera is higher than that of Papunesian, North American, and South American genera as a consequence of the bibliographical bias. Nevertheless, as

already discussed in §1.1, the proportional differences are not statistically significant, and the findings presented in this chapter are thus considered reasonably balanced and representative of the world's languages.

6.1 **Distribution of voices**

The geographic distribution of languages with at least one voice in the sample is presented in Table 6.2. The voices are listed according to their overall cross-linguistic frequency with the causative voice being most frequent and the antipassive voice being least frequent. Note that the anticausative and passive voices are equally frequent. As seen in the table, there is considerable variation in the prevalence of individual voices across the world, and voices are noticeably noticeably infrequent among languages of Papunesia. In fact, the Papunesian macroarea accounts for the lowest percentages of languages features causatives, reflexives, anticausatives, passives, and antipassives. By contrast, North America is characterised by a high prevalence of all seven voices. It is worth stressing here that this table and the other tables presented in this section say nothing about dissimilarities nor similarities in voice marking. Dissimilarities are briefly considered in terms of dedicated voice marking in the next section, while similarities are discussed in more detail in terms of voice syncretism in §6.3.

Table 6.2: Voices according to macroarea (by frequency)

| | AF | EA | AU | PN | NA | SA | Σ | | AF | EA | AU | PN | NA | SA | Σ |
|-------------|----|----|----|----|----|----|-----|-----|------|------|------|------|------|------|----------|
| CAUS | 28 | 33 | 12 | 25 | 34 | 30 | 162 | (#) | 71.8 | 80.5 | 57.1 | 52.1 | 94.4 | 81.1 | 73.9 (%) |
| RECP | 17 | 22 | 17 | 24 | 25 | 29 | 134 | | 43.6 | 53.7 | 81.0 | 50.0 | 69.4 | 78.4 | 60.4 |
| APPL | 13 | 10 | 8 | 24 | 26 | 21 | 102 | | 33.3 | 24.4 | 38.1 | 50.0 | 72.2 | 56.8 | 45.9 |
| REFL | 10 | 14 | 15 | 6 | 22 | 26 | 93 | | 25.6 | 34.1 | 71.4 | 12.5 | 61.1 | 70.3 | 41.9 |
| ANTC | 16 | 20 | 8 | 10 | 16 | 10 | 80 | | 41.0 | 48.8 | 38.1 | 20.8 | 44.4 | 27.0 | 36.0 |
| PASS | 24 | 17 | 2 | 3 | 20 | 14 | 80 | | 61.5 | 41.5 | 9.5 | 6.3 | 55.6 | 37.8 | 36.0 |
| ANTP | 9 | 7 | 2 | 4 | 11 | 8 | 41 | | 23.1 | 17.1 | 9.5 | 8.3 | 30.6 | 21.6 | 18.5 |
| | | | | | | | | | 39 | 41 | 21 | 48 | 36 | 37 | 222 (n) |

Table 6.3 provides a different perspective on the geographic distribution of voices by showing the total number of voices (on the left-hand side of the table) attested in individual languages. Note that the maximum number of voices found in any given language is limited by the seven voices of focus in this book. The

table shows that languages with three or four voices are most common in the language sample, while languages with seven voices are least common. Only eight languages of the latter kind are attested in the sample, five of which form two geographic clusters in the Americas: the Uto-Aztecan language Huasteca Nahuatl, the Totonacan language Filomeno Mata Totonac, and the Oto-Manguean language Acazolco Otomí in the heart of Mexico; and the Panoan language Chácobo and the isolate Mosestén in Northwestern Bolivia. The remaining three languages are the Central Salish language Musqueam of North America, the Kordofanian language Lumun of Africa, and the language isolate Ainu of Eurasia. Languages with seven voices are unattested in Australia and Papunesia. Only 25 languages in the sample (11.3 percent) feature no voice at all, none of which are spoken in North America.

Table 6.3: Number of voices according to macroarea

| | AF | EA | AU | PN | NA | SA | Σ | | AF | EA | AU | PN | NA | SA | Σ |
|---|----|----|----|----|----|----|----|-----|------|------|------|------|------|------|----------|
| 0 | 6 | 4 | 2 | 10 | 0 | 3 | 25 | (#) | 15.4 | 9.8 | 9.5 | 20.8 | 0.0 | 8.1 | 11.3 (%) |
| 1 | 3 | 9 | 1 | 9 | 3 | 1 | 26 | | 7.7 | 22.0 | 4.8 | 18.8 | 8.3 | 2.7 | 11.7 |
| 2 | 7 | 2 | 6 | 12 | 3 | 6 | 36 | | 17.9 | 4.9 | 28.6 | 25.0 | 8.3 | 16.2 | 16.2 |
| 3 | 7 | 8 | 4 | 9 | 6 | 5 | 39 | | 17.9 | 19.5 | 19.0 | 18.8 | 16.7 | 13.5 | 17.6 |
| 4 | 6 | 10 | 2 | 5 | 7 | 8 | 38 | | 15.4 | 24.4 | 9.5 | 10.4 | 19.4 | 21.6 | 17.1 |
| 5 | 6 | 3 | 5 | 2 | 7 | 8 | 31 | | 15.4 | 7.3 | 23.8 | 4.2 | 19.4 | 21.6 | 14.0 |
| 6 | 3 | 4 | 1 | 1 | 6 | 4 | 19 | | 7.7 | 9.8 | 4.8 | 2.1 | 16.7 | 10.8 | 8.6 |
| 7 | 1 | 1 | 0 | 0 | 4 | 2 | 8 | | 2.6 | 2.4 | 0.0 | 0.0 | 11.1 | 5.4 | 3.6 |
| | | | | | | | | | 39 | 41 | 21 | 48 | 36 | 37 | 222 (n) |

The percentages in Table 6.3 are presented as cumulative percentages in Table 6.4. The cumulative percentages for the Papunesian macroarea are consistently higher than those for other macroareas, while the cumulative percentages for the North American macroarea are consistently lower. For instance, 83.3 percent of Papunesian languages in the sample have three or fewer attested voices, while this is the case for only 33.3 percent of North American languages. Put differently, 66.7 percent of North American languages feature more than three voices, while the same number is only 16.7 percent for Papunesian languages. Languages of other macroareas lie somewhere in between these poles.

Table 6.4: Number of voices according to macroarea (cum.)

| | AF | EA | AU | PN | NA | SA |
|----------|-------|-------|-------|-------|-------|---------|
| 0 | 15.4 | 9.8 | 9.5 | 20.8 | 0.0 | 8.1 (%) |
| 1 | 23.1 | 31.7 | 14.3 | 39.6 | 8.3 | 10.8 |
| 2 | 41.0 | 36.6 | 42.9 | 64.6 | 16.7 | 27.0 |
| 3 | 59.0 | 56.1 | 61.9 | 83.3 | 33.3 | 40.5 |
| 4 | 74.4 | 80.5 | 71.4 | 93.8 | 52.8 | 62.2 |
| 5 | 89.7 | 87.8 | 95.2 | 97.9 | 72.2 | 83.8 |
| 6 | 97.4 | 97.6 | 100.0 | 100.0 | 88.9 | 94.6 |
| 7 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Finally, Table 6.5 shows the probability of any given language in the language sample with a particular voice (on the Y-axis) also having another voice (on the X-axis). For instance, if a language in the sample has a reflexive voice, the probability of it also featuring a reciprocal voice is 94.6 percent. By contrast, if a language in the sample has a reciprocal voice, the probability of it also featuring a reflexive voice is only 65.7 percent. The probabilities in this table are naturally closely linked to the overall frequencies of the respective voices (see Table 6.2 on page 150), as reflected for instance by the consistently high probabilities of a language with a causative voice owing to the high prevalence of causative voices cross-linguistically.

Table 6.5: Voices according to probability

| | REFL | RECP | ANTC | PASS | ANTP | CAUS | APPL |
|---------------|------|------|------|------|------|------|----------|
| REFL → | – | 94.6 | 54.8 | 47.3 | 24.7 | 84.9 | 62.4 (%) |
| RECP → | 65.7 | – | 44.8 | 43.3 | 19.4 | 82.8 | 60.4 |
| ANTC → | 63.8 | 75.0 | – | 56.3 | 26.3 | 91.3 | 53.8 |
| PASS → | 55.0 | 72.5 | 56.3 | – | 28.8 | 92.5 | 50.0 |
| ANTP → | 56.1 | 63.4 | 51.2 | 56.1 | – | 87.8 | 56.1 |
| CAUS → | 48.8 | 68.5 | 45.1 | 45.7 | 22.2 | – | 53.7 |
| APPL → | 56.9 | 79.4 | 42.2 | 39.2 | 22.5 | 85.3 | – |

6.2 Distribution of dedicated voice marking

As defined in Chapter 3, dedicated voice marking refers to formal marking restricted to one of the seven voices of focus in this book. For example, in the Tupian language Karo (SA) the passive prefix *pe-*, the reflexive prefix *mām-*, the reciprocal prefix *ro-*, and the causative prefixes *ma-* and *ta-* are all regarded as dedicated voice marking because the respective prefixes do not serve as voice marking in other voices (Gabas 1999). The distribution of such dedicated voice marking in the language sample is presented in Table 6.6 according to macroarea. The table shows that a relatively low number of languages in the sample feature dedicated reflexive, anticausative, passive, or antipassive voice marking, while more than half of the languages feature dedicated causative voice marking. In turn, dedicated reciprocal or applicative voice marking is each attested in roughly one third of the languages in the sample.

Table 6.6: Dedicated voice marking according to macroarea

| | AF | EA | AU | PN | NA | SA | Σ | | AF | EA | AU | PN | NA | SA | Σ |
|-------------|----|----|----|----|----|----|--------|--|------|------|------|------|------|------|----------|
| REFL | 2 | 3 | 2 | 2 | 8 | 6 | 23 (#) | | 5.1 | 7.3 | 9.5 | 4.2 | 22.2 | 16.2 | 10.4 (%) |
| RECP | 7 | 12 | 8 | 19 | 11 | 10 | 67 | | 17.9 | 29.3 | 38.1 | 39.6 | 30.6 | 27.0 | 30.2 |
| ANTC | 5 | 8 | 2 | 7 | 8 | 2 | 32 | | 12.8 | 19.5 | 9.5 | 14.6 | 22.2 | 5.4 | 14.4 |
| PASS | 11 | 6 | 0 | 3 | 11 | 7 | 38 | | 28.2 | 14.6 | 0.0 | 6.3 | 30.6 | 18.9 | 17.1 |
| ANTP | 6 | 4 | 0 | 2 | 7 | 5 | 24 | | 15.4 | 9.8 | 0.0 | 4.2 | 19.4 | 13.5 | 10.8 |
| CAUS | 17 | 22 | 10 | 21 | 28 | 26 | 124 | | 43.6 | 53.7 | 47.6 | 43.8 | 77.8 | 70.3 | 55.9 |
| APPL | 8 | 4 | 6 | 21 | 18 | 17 | 74 | | 20.5 | 9.8 | 28.6 | 43.8 | 50.0 | 45.9 | 33.3 |
| | | | | | | | | | 39 | 41 | 21 | 48 | 36 | 37 | 222 (n) |

Table 6.7 provides a clearer picture of the relative proportions of dedicated voice marking. This table is based on the same underlying figures as Table 6.6 but the percentages are calculated according to the numbers of languages in the sample for which a given voice has been attested according to macroarea (see Table 6.2 on page 150). For example, Table 6.7 shows that in exactly half of the languages featuring a reciprocal voice, this voice is characterised by dedicated reciprocal marking. This percentage is considerably lower with regard to the reflexive voice, and considerably higher with regard to the causative and applicative voices. As noted in the beginning of this chapter, dedicated voice marking contrasts with voice syncretism, and the languages not covered by Table 6.7 con-

sequently feature voice syncretism. Thus, an inverse version of the table is provided and discussed in the next section (see Table 6.11 on page 157).

Table 6.7: Dedicated voice marking according to macroarea (prop.)

| | AF | EA | AU | PN | NA | SA | Σ |
|-------------|------|------|------|-------|------|------|----------|
| REFL | 20.0 | 21.4 | 13.3 | 33.3 | 36.4 | 23.1 | 24.7 (%) |
| RECP | 41.2 | 54.5 | 47.1 | 79.2 | 44.0 | 34.5 | 50.0 |
| ANTC | 31.3 | 40.0 | 25.0 | 70.0 | 50.0 | 20.0 | 40.0 |
| PASS | 45.8 | 35.3 | 0.0 | 100.0 | 55.0 | 50.0 | 47.0 |
| ANTP | 66.7 | 57.1 | 0.0 | 50.0 | 63.6 | 62.5 | 58.5 |
| CAUS | 60.7 | 66.7 | 83.3 | 84.0 | 82.4 | 86.7 | 76.5 |
| APPL | 61.5 | 40.0 | 75.0 | 87.5 | 69.2 | 81.0 | 72.5 |

6.3 Distribution of voice syncretism

As shown in the beginning of this chapter, 104 of the 222 languages in the language sample (46.8 percent) feature voice syncretism (see Table 6.1 on page 149). These languages are presented in Table 6.8 according to type and macroarea. Type 1a syncretism denotes unconditioned full resemblance in voice marking (§3.2.1), type 1b syncretism denotes conditioned full resemblance (§3.2.2), type 2 syncretism denotes partial resemblance (§3.2.3), and type 3 syncretism denotes so-called reverse resemblance (§3.2.4). Note that a language can possess different types of voice syncretism for which reason it can be counted in several rows in the table. Moreover, note that the first row in the table denotes numbers of languages with type 1a and/or type 1b syncretism. The numbers in this row happen to coincide with those for type 1a syncretism in the following row, indicating that all languages in the sample featuring type 1b syncretism also feature type 1a syncretism. Table 6.8 shows that type 1 syncretism is attested in 91 languages (41 percent), type 2 syncretism in 25 languages (11.3 percent), and type 3 syncretism in six languages (2.7 percent). Observe that type 2 syncretism is not attested for a single Australian language in the sample, yet this type of syncretism is not entirely unknown to this macroarea as it has been attested in at least one Pama-Nyungan language in the literature, Uradhi (see Table 1.2 on page 3).

Table 6.8: Voice syncretism according to type and macroarea

| | AF | EA | AU | PN | NA | SA | Σ | | AF | EA | AU | PN | NA | SA | Σ |
|---------------|----|----|----|----|----|----|--------|--|------|------|------|------|------|------|----------|
| Type 1 | 15 | 19 | 14 | 6 | 17 | 20 | 91 (#) | | 38.5 | 46.3 | 66.7 | 12.5 | 47.2 | 54.1 | 41.0 (%) |
| – a | 15 | 19 | 14 | 6 | 17 | 20 | 91 | | 38.5 | 46.3 | 66.7 | 12.5 | 47.2 | 54.1 | 41.0 |
| – b | 3 | 0 | 0 | 0 | 3 | 0 | 6 | | 7.7 | 0.0 | 0.0 | 0.0 | 8.3 | 0.0 | 2.7 |
| Type 2 | 4 | 5 | 0 | 3 | 3 | 10 | 25 | | 10.3 | 12.2 | 0.0 | 6.3 | 8.3 | 27.0 | 11.3 |
| Type 3 | 0 | 2 | 1 | 1 | 0 | 2 | 6 | | 0.0 | 4.9 | 4.8 | 2.1 | 0.0 | 5.4 | 2.7 |
| | | | | | | | | | 39 | 41 | 21 | 48 | 36 | 37 | 222 (n) |

Table 6.9 is based on the same underlying numbers as Table 6.8 but the percentages are calculated according to the numbers of languages for which voice syncretism has been attested in the sample. This table shows that close to nine tenth of the patterns of syncretism attested among the languages in the sample are of type 1 (87.5 percent), while roughly a quarter are of type 2 (24.0 percent). Evidently, although type 2 syncretism has received little attention in the literature, it is not uncommon cross-linguistically. Type 1 and type 2 syncretism serve as the basis for most of the statistics in the following sections, while type 3 syncretism is largely ignored due to its peculiar nature (§3.2.4), unless otherwise indicated.

Table 6.9: Voice syncretism according to type and macroarea (prop.)

| | AF | EA | AU | PN | NA | SA | Σ |
|---------------|------|------|-------|------|------|------|----------|
| Type 1 | 78.9 | 95.0 | 100.0 | 66.7 | 89.5 | 87.0 | 87.5 (%) |
| – a | 78.9 | 95.0 | 100.0 | 66.7 | 89.5 | 87.0 | 87.5 |
| – b | 15.8 | 0.0 | 0.0 | 0.0 | 15.8 | 0.0 | 5.8 |
| Type 2 | 21.1 | 25.0 | 0.0 | 33.3 | 15.8 | 43.5 | 24.0 |
| Type 3 | 0.0 | 10.0 | 7.1 | 11.1 | 0.0 | 8.7 | 5.8 |
| | 39 | 41 | 21 | 48 | 36 | 37 | 222 (n) |

The geographic distribution of languages with voice syncretism in the language sample is presented in Table 6.10. Observe that this table shows syncretic voice marking according to voice but does not show individual patterns of voice syncretism. For instance, the first cell in the table counts all African languages

in which reflexive voice marking is syncretic with one voice or another. When the table is compared to the corresponding table on dedicated voice marking in §6.2 (see Table 6.6 on page 153), it is evident that more languages in the sample feature reflexive, anticausative, and/or passive syncretism than dedicated voice marking. By contrast, more languages feature dedicated antipassive, causative, and/or applicative dedicated voice marking than voice syncretism. Interestingly, reciprocal syncretism is equally prevalent as dedicated reciprocal voice marking (30.2 percent), and the voice in question does therefore not seem to have any disposition towards neither dedicated marking nor syncretism.

Table 6.10: Voice syncretism according to macroarea

| | AF | EA | AU | PN | NA | SA | Σ | | AF | EA | AU | PN | NA | SA | Σ |
|-------------|----|----|----|----|----|----|----|-----|------|------|------|------|------|------|----------|
| REFL | 8 | 11 | 13 | 4 | 14 | 20 | 70 | (#) | 20.5 | 26.8 | 61.9 | 8.3 | 38.9 | 54.1 | 31.5 (%) |
| RECP | 10 | 10 | 9 | 5 | 14 | 19 | 67 | | 25.6 | 24.4 | 42.9 | 10.4 | 38.9 | 51.4 | 30.2 |
| ANTC | 11 | 12 | 6 | 3 | 8 | 8 | 48 | | 28.2 | 29.3 | 28.6 | 6.3 | 22.2 | 21.6 | 21.6 |
| PASS | 13 | 11 | 2 | 0 | 9 | 7 | 42 | | 33.3 | 26.8 | 9.5 | 0.0 | 25.0 | 18.9 | 18.9 |
| ANTP | 3 | 3 | 2 | 2 | 4 | 3 | 17 | | 7.7 | 7.3 | 9.5 | 4.2 | 11.1 | 8.1 | 7.7 |
| CAUS | 11 | 11 | 2 | 4 | 6 | 4 | 38 | | 28.2 | 26.8 | 9.5 | 8.3 | 16.7 | 10.8 | 17.1 |
| APPL | 5 | 6 | 2 | 3 | 8 | 4 | 28 | | 12.8 | 14.6 | 9.5 | 6.3 | 22.2 | 10.8 | 12.6 |
| | | | | | | | | | 39 | 41 | 21 | 48 | 36 | 37 | 222 (n) |

Table 6.11 shows the proportions of the numbers in Table 6.10 in relation to the numbers of languages in the sample for which a given voice is attested according to macroarea (see Table 6.2 on page 150). Thus, Table 6.11 is basically an inverse version of the corresponding table on dedicated voice marking presented in §6.2 (see Table 6.7 on page 154). Table 6.11 shows that voice marking in the reflexive voice is predominantly syncretic, while the voice marking in causative and applicative voices is predominantly dedicated. Voice marking in the remaining voices lie in between these poles. The cross-linguistic prevalence of reflexive syncretism is particularly interesting in relation to the fact that reflexivity is commonly the centre of attention in studies of voice syncretism (§3.1.1). The high overall percentage clearly shows that reflexive voice marking is more prone to be syncretic than voice marking associated with other voices, and the traditional focus on reflexive syncretism is therefore not unfounded. Furthermore, it can be observed that passive voice marking is consistently dedicated among Papunesian languages but syncretic among Australian languages. Likewise, antipassive voice

marking is consistently syncretic for the latter languages. However, it is worth keeping in mind that the passive and antipassive voices are rather uncommon among languages of these two macroareas in the first place.

Table 6.11: Voice syncretism according to macroarea (prop.)

| | AF | EA | AU | PN | NA | SA | Σ |
|-------------|------|------|-------|------|------|------|----------|
| REFL | 80.0 | 78.6 | 86.7 | 66.7 | 63.6 | 76.9 | 75.3 (%) |
| RECP | 58.8 | 45.5 | 52.9 | 20.8 | 56.0 | 65.5 | 50.0 |
| ANTC | 68.8 | 60.0 | 75.0 | 30.0 | 50.0 | 80.0 | 60.0 |
| PASS | 54.2 | 64.7 | 100.0 | 0.0 | 45.0 | 50.0 | 52.5 |
| ANTP | 33.3 | 42.9 | 100.0 | 50.0 | 36.4 | 37.5 | 41.5 |
| CAUS | 39.3 | 33.3 | 16.7 | 16.0 | 17.6 | 13.3 | 23.5 |
| APPL | 38.5 | 60.0 | 25.0 | 12.5 | 30.8 | 19.0 | 27.5 |

Next, Table 6.12 provides a more detailed overview of the numbers of individual voices that share voice marking. The Y-axis denotes a given voice and its voice marking, while the X-axis indicates the number of other voices sharing the same voice marking. For example, the table shows that 39.8 percent of reflexive voice syncretism attested in the sample involves the reflexive voice in addition to one other voice. By contrast, only 1.1 percent of the attestations involves the reflexive voice in addition to four other voices. The table also covers dedicated voice marking (“0”) for easy reference and comparison, while the final column in the table (“2–4”) represents the cumulative percentages of the three previous columns. For instance, the latter column shows that voice marking in the anticausative voice is more likely to be shared by two or more voices (35 percent) than just one other voice (25 percent). The same goes for voice marking in the antipassive voice (cf. 29.3 percent and 12.1 percent, respectively). By contrast, the opposite is true for voice marking in the other voices. This shows that that anticausative and antipassive voices are more commonly linked with multiple other voices in terms of voice marking than the reflexive, reciprocal, causative, and applicative voices. This can probably be explained to some extent by the fact that the anticausative and antipassive voices are more likely to evolve from other voices than to serve as origins of voice syncretism themselves, as further discussed in the next chapter. Furthermore, it can be observed that causative or applicative voice marking only rarely is shared by more than one other voice. The most notable exception here is the North Omotic language Wolaytta (AF), which features causative-passive-reflexive-reciprocal syncretism (§5.3.1). Additionally,

note that the Permic language Udmurt (EA) is the only language featured in the column “4” due to its extensive syncretism (§5.4).

Table 6.12: Voice syncretism according to complexity

| | 0 | 1 | 2 | 3 | 4 | | 0 | 1 | 2 | 3 | 4 | 2–4 |
|-------------|-----|----|----|---|---|-----|------|------|------|-----|-----|----------|
| REFL | 23 | 37 | 25 | 7 | 1 | (#) | 24.7 | 39.8 | 26.9 | 7.5 | 1.1 | 35.5 (%) |
| RECP | 67 | 34 | 26 | 6 | 1 | | 50.0 | 25.4 | 19.4 | 4.5 | 0.7 | 24.6 |
| ANTC | 32 | 20 | 21 | 6 | 1 | | 40.0 | 25.0 | 26.3 | 7.5 | 1.3 | 35.0 |
| PASS | 38 | 22 | 15 | 4 | 1 | | 47.5 | 27.5 | 18.8 | 5.0 | 1.3 | 25.0 |
| ANTP | 24 | 5 | 7 | 4 | 1 | | 58.5 | 12.2 | 17.1 | 9.8 | 2.4 | 29.3 |
| CAUS | 124 | 32 | 5 | 1 | 0 | | 76.5 | 19.8 | 3.1 | 0.6 | 0.0 | 3.7 |
| APPL | 74 | 24 | 4 | 0 | 0 | | 72.5 | 23.5 | 3.9 | 0.0 | 0.0 | 3.9 |

A more detailed discussion of the distribution of the patterns of simplex voice syncretism underlying the figures in column “1” is provided in the next section, while the patterns of complex voice syncretism underlying the figures in columns “2” through “4” are treated in more detail in §6.3.2.

6.3.1 By minimal syncretism

Table 6.13 shows the distribution of minimal simplex voice syncretism in the language sample according to pattern and type. Thus, here the attestation of, say, reflexive-reciprocal-anticausative syncretism in a language is counted under the patterns “REFL-RECP”, “REFL-RECP” and “RECP-ANTC”. Maximal simplex and complex syncretism (excluding minimal syncretism) is treated separately in the next section. The 21 patterns listed in the table are sorted according to frequency (type 1 and type 2 syncretism combined) with the most frequent pattern at the top and the least frequent pattern at the bottom. Furthermore, note that the attestations of type 1 and type 2 presented in Table 6.13 do not necessarily sum up to the combined figures horizontally, as some languages feature both types and are therefore only counted once in the sums. Also note that the attestations of type 3 syncretism do not sum up to six vertically in the table, even though it was mentioned in §3.2.4 that the phenomenon is attested in six languages in the sample. This is due to the fact that more than one pattern of type 3 voice syncretism is attested in both the language isolate Mosestén (SA) and the Gunwinyguan language Nunggubuyu (AU). Moreover, observe that no pattern of simplex voice syncretism is attested in more than one fourth of the language

sample, and that all but two patterns are attested in less than ten percent. Evidently, most patterns of simplex voice syncretism are not particularly common cross-linguistically. However, it is worth keeping in mind that each language in the sample represents a unique genus, many of which encompass multiple other languages. Thus, it is predicted that there are hundreds of additional languages around the world featuring one or more of the patterns in Table 6.13.

Table 6.13: Minimal voice syncretism according to type

| | 1a+b | 1a | 1b | 2 | 3 | 1+2 | | 1a+b | 1a | 1b | 2 | 3 | 1+2 |
|-----------|------|----|----|---|---|-----|-----|------|------|-----|-----|-----|------|
| REFL-RECP | 43 | 43 | 0 | 8 | 0 | 49 | (#) | 19.4 | 19.4 | 0.0 | 3.6 | 0.0 | 22.1 |
| REFL-ANTC | 33 | 32 | 1 | 0 | 0 | 33 | | 14.9 | 14.4 | 0.5 | 0.0 | 0.0 | 14.9 |
| RECP-ANTC | 18 | 17 | 1 | 4 | 0 | 22 | | 8.1 | 7.7 | 0.5 | 1.8 | 0.0 | 9.9 |
| CAUS-APPL | 18 | 17 | 1 | 2 | 2 | 20 | | 8.1 | 7.7 | 0.5 | 0.9 | 0.9 | 9.0 |
| PASS-REFL | 17 | 17 | 0 | 2 | 0 | 19 | | 7.7 | 7.7 | 0.0 | 0.9 | 0.0 | 8.6 |
| PASS-ANTC | 17 | 17 | 0 | 0 | 0 | 17 | | 7.7 | 7.7 | 0.0 | 0.0 | 0.0 | 7.7 |
| PASS-RECP | 9 | 9 | 0 | 6 | 0 | 15 | | 4.1 | 4.1 | 0.0 | 2.7 | 0.0 | 6.8 |
| CAUS-PASS | 9 | 7 | 2 | 5 | 0 | 14 | | 4.1 | 3.2 | 0.9 | 2.3 | 0.0 | 6.3 |
| ANTP-RECP | 11 | 11 | 0 | 0 | 0 | 11 | | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 5.0 |
| ANTP-REFL | 10 | 10 | 0 | 0 | 0 | 10 | | 4.5 | 4.5 | 0.0 | 0.0 | 0.0 | 4.5 |
| ANTP-ANTC | 10 | 9 | 1 | 0 | 0 | 10 | | 4.5 | 4.1 | 0.5 | 0.0 | 0.0 | 4.5 |
| APPL-RECP | 3 | 3 | 0 | 5 | 3 | 8 | | 1.4 | 1.4 | 0.0 | 2.3 | 1.4 | 3.6 |
| CAUS-ANTC | 4 | 3 | 1 | 1 | 0 | 5 | | 1.8 | 1.4 | 0.5 | 0.5 | 0.0 | 2.3 |
| PASS-ANTP | 4 | 4 | 0 | 0 | 0 | 4 | | 1.8 | 1.8 | 0.0 | 0.0 | 0.0 | 1.8 |
| CAUS-RECP | 2 | 1 | 1 | 2 | 1 | 4 | | 0.9 | 0.5 | 0.5 | 0.9 | 0.5 | 1.8 |
| APPL-PASS | 2 | 2 | 0 | 1 | 1 | 3 | | 0.9 | 0.9 | 0.0 | 0.5 | 0.5 | 1.4 |
| APPL-ANTP | 2 | 2 | 0 | 0 | 1 | 2 | | 0.9 | 0.9 | 0.0 | 0.0 | 0.5 | 0.9 |
| CAUS-ANTP | 2 | 1 | 1 | 0 | 0 | 2 | | 0.9 | 0.5 | 0.5 | 0.0 | 0.0 | 0.9 |
| CAUS-REFL | 1 | 0 | 1 | 1 | 0 | 2 | | 0.5 | 0.0 | 0.5 | 0.5 | 0.0 | 0.9 |
| APPL-REFL | 0 | 0 | 0 | 1 | 2 | 1 | | 0.0 | 0.0 | 0.0 | 0.5 | 0.9 | 0.5 |
| APPL-ANTC | 0 | 0 | 0 | 0 | 0 | 0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Table 6.13 shows that patterns of middle syncretism are generally much more frequent cross-linguistically than other patterns with the notable exception of causative-applicative syncretism. It is, however, also worth noting that three patterns of antipassive syncretism are attested in ten to eleven genera, and also that causative-passive syncretism is roughly as common as passive-reciprocal syncretism. All other patterns are rather uncommon and two remain unattested as

type 1 syncretism, applicative-reflexive and applicative-anticausative syncretism. As already discussed in §3.1.3 and §3.1.4, patterns of simplex middle syncretism have also been found to be cross-linguistically more prevalent than other patterns of simplex voice syncretism in prior typological studies implicitly involving voice syncretism by *Geniušienė* (1987) and *Haspelmath* (1990). Explicit comments on the cross-linguistic prevalence of middle syncretism can also be found sporadically in the literature. For example, as already cited in §4.1.1, *Creissels* (2016: 66) argues that “[t]he reflexive-reciprocal syncretism does not seem to be particularly widespread in the languages of the world”. *Maslova & Nedjalkov* (2005: 430), on the contrary, argue that in every fourth language “[t]he reciprocal and reflexive constructions are formally identical”, and *Heine & Miyashita* (2008: 171) that “at least every third language has a REF[L]-REC[P] category”. Nevertheless, it is here worth noting that the estimates by *Maslova & Nedjalkov* and *Heine & Miyashita* also include periphrastic constructions of various kinds, unlike in this book. In any case, their estimates are rather close to the figures 19.4 percent (type 1 syncretism) and 22.1 percent (type 1 and type 2 syncretism combined) attested in the survey of this book.

Sporadic comments on the cross-linguistic prevalence of other common patterns of voice syncretism can also be found in the literature, for instance on causative-applicative syncretism. *Shibatani & Pardeshi* (2002: 116) state that “[i]n a fair number of languages, causative morphemes are associated with the applicative function”, and *Peterson* (2007: 182) remarks that “[c]ausative-applicative syncretism is something which is not reported very frequently for causative markers explicitly, but it does occur”. *Malchukov* (2017: 10) argues that the syncretism in question “seems actually to be more widespread cross-linguistically than reported”. Indeed, Table 6.13 shows that causative-applicative syncretism is more prevalent than several patterns of middle syncretism. By contrast, observations on the prevalence of less frequent patterns of syncretism are very scarce. One observation is provided by *Creissels* (2012: 10) who remarks that passive-antipassive syncretism (alongside various other patterns of syncretism) “are extremely common cross-linguistically”. By contrast, *Dixon* (1994: 151) states that “[j]ust occasionally, one finds a language in which a single derivational affix can have either passive or antipassive effect”, and *Zúñiga & Kittilä* (2019: 241) argues that passive-antipassive syncretism is “rather difficult to find”. These suspicions can be confirmed here, as the syncretism is only attested in four languages in the sample. *Zúñiga & Kittilä* (2019: 244) also remark that they have only found “one clear case” of causative-anticausative syncretism, yet the sample this pattern of syncretism has roughly the same frequency as passive-antipassive syncretism.

Next, Table 6.14 shows the distribution of simplex voice syncretism according to macroarea. The order in which the patterns are listed in the table follows that of Table 6.13 discussed above. However, note that Table 6.14 only covers type 1 syncretism for which reason both applicative-reflexive and applicative-anticausative syncretism is unattested in the table. The table shows that there are considerable differences in the prevalence of voice syncretism across the world. Voice syncretism is noticeably more rare in Papunesia than in other macroareas, and only seven patterns of voice syncretism have been attested in the area. Only nine patterns of voice syncretism have been attested in Australia, yet in this area there is a high prevalence of reflexive-reciprocal and reflexive-anticausative syncretism. Indeed, the prevalence of reflexive-reciprocal syncretism in Australia is

Table 6.14: Minimal simplex voice syncretism (type 1)

| | AF | EA | AU | PN | NA | SA | | AF | EA | AU | PN | NA | SA | |
|-----------|----|----|----|----|----|----|-----|------|------|------|-----|------|------|-----|
| REFL-RECP | 3 | 6 | 9 | 2 | 10 | 13 | (#) | 7.7 | 14.6 | 42.9 | 4.2 | 27.8 | 35.1 | (%) |
| REFL-ANTC | 4 | 8 | 6 | 3 | 6 | 6 | | 10.3 | 19.5 | 28.6 | 6.3 | 16.7 | 16.2 | |
| RECP-ANTC | 3 | 5 | 2 | 1 | 5 | 2 | | 7.7 | 12.2 | 9.5 | 2.1 | 13.9 | 5.4 | |
| CAUS-APPL | 3 | 4 | 2 | 2 | 5 | 2 | | 7.7 | 9.8 | 9.5 | 4.2 | 13.9 | 5.4 | |
| PASS-REFL | 4 | 4 | 2 | 0 | 2 | 5 | | 10.3 | 9.8 | 9.5 | 0.0 | 5.6 | 13.5 | |
| PASS-ANTC | 5 | 6 | 1 | 0 | 3 | 2 | | 12.8 | 14.6 | 4.8 | 0.0 | 8.3 | 5.4 | |
| PASS-RECP | 3 | 3 | 0 | 0 | 1 | 2 | | 7.7 | 7.3 | 0.0 | 0.0 | 2.8 | 5.4 | |
| CAUS-PASS | 3 | 3 | 0 | 0 | 3 | 0 | | 7.3 | 7.3 | 0.0 | 0.0 | 8.3 | 0.0 | |
| ANTP-RECP | 1 | 3 | 2 | 0 | 3 | 2 | | 2.6 | 7.3 | 9.5 | 0.0 | 8.3 | 5.4 | |
| ANTP-REFL | 0 | 3 | 2 | 1 | 2 | 2 | | 0.0 | 7.3 | 9.5 | 2.1 | 5.6 | 5.4 | |
| ANTP-ANTC | 1 | 3 | 1 | 1 | 2 | 2 | | 2.6 | 7.3 | 4.8 | 2.1 | 5.6 | 5.4 | |
| APPL-RECP | 1 | 0 | 0 | 0 | 2 | 0 | | 2.6 | 0.0 | 0.0 | 0.0 | 5.6 | 0.0 | |
| CAUS-ANTC | 0 | 3 | 0 | 0 | 1 | 0 | | 0.0 | 7.3 | 0.0 | 0.0 | 2.8 | 0.0 | |
| PASS-ANTP | 0 | 2 | 0 | 0 | 1 | 1 | | 0.0 | 4.9 | 0.0 | 0.0 | 2.8 | 2.7 | |
| CAUS-RECP | 1 | 0 | 0 | 0 | 0 | 1 | | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 2.7 | |
| APPL-PASS | 0 | 1 | 0 | 0 | 1 | 0 | | 0.0 | 2.4 | 0.0 | 0.0 | 2.8 | 0.0 | |
| APPL-ANTP | 0 | 1 | 0 | 0 | 1 | 0 | | 0.0 | 2.4 | 0.0 | 0.0 | 2.8 | 0.0 | |
| CAUS-ANTP | 1 | 0 | 0 | 1 | 0 | 0 | | 2.6 | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 | |
| CAUS-REFL | 1 | 0 | 0 | 0 | 0 | 0 | | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| APPL-REFL | 0 | 0 | 0 | 0 | 0 | 0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| APPL-ANTC | 0 | 0 | 0 | 0 | 0 | 0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |

not matched by any other macroarea. By contrast, more than ten patterns of voice syncretism have been attested in each of the remaining four macroareas. North America is home to most diversity in voice syncretism with sixteen different patterns attested, followed by Eurasia with fifteen, Africa with fourteen, and South America with twelve. Only five patterns have been attested in all six macroareas: reflexive-reciprocal, reflexive-anticausative, reciprocal-anticausative, causative-applicative, and antipassive-anticausative syncretism. However, it is worth noting that three additional patterns have been attested in five macroareas each and the lack of attestations from a sixth macroarea can very well be coincidental: passive-reflexive, passive-anticausative, and antipassive-reciprocal syncretism. All other patterns of voice syncretism only show up sporadically and remain unattested or marginally attested in most macroareas.

Finally, Table 6.15 shows the probability of voice marking in a particular voice (on the Y-axis) being syncretic with voice marking in another voice (on the X-axis) among the languages in the language sample. For instance, if a language in the sample has a reflexive voice, the probability of its reflexive voice marking being syncretic with reciprocal voice marking is 52.7 percent. In other words, a reflexive voice is attested in 93 languages in the sample (see Table 6.2 on page 150) and 49 of the aforementioned languages (52.7 percent) feature reflexive-reciprocal syncretism (see Table 6.13). By contrast, if a language has an applicative voice, the probability of its applicative voice marking being syncretic with anticausative voice marking is zero percent, as no such pattern of voice syncretism is attested at all. In light of the data presented and discussed in this and the previous section, it is not surprising that the probabilities for patterns of middle syncretism are generally higher than those for other patterns in Table 6.15. How-

Table 6.15: Voice syncretism according to probability

| | | REFL | RECP | ANTC | PASS | ANTP | CAUS | APPL | |
|-------------|---|------|------|------|------|------|------|------|-----|
| REFL | → | – | 52.7 | 35.5 | 20.5 | 10.8 | 2.2 | 1.1 | (%) |
| RECP | → | 36.6 | – | 16.4 | 11.2 | 8.2 | 3.0 | 6.0 | |
| ANTC | → | 41.3 | 27.5 | – | 21.3 | 12.5 | 6.3 | 0.0 | |
| PASS | → | 23.8 | 18.8 | 21.3 | – | 5.0 | 17.5 | 3.8 | |
| ANTP | → | 24.4 | 26.8 | 24.4 | 9.8 | – | 4.9 | 4.9 | |
| CAUS | → | 1.2 | 2.5 | 3.1 | 8.6 | 1.2 | – | 12.3 | |
| APPL | → | 1.0 | 7.8 | 0.0 | 2.9 | 2.0 | 19.6 | – | |

ever, it is also worth noting the comparatively high probabilities pertaining to causative and applicative voice marking which highlights the close relationship between the two voices seen in many languages (§4.3.1). Indeed, as discussed in more detail in the next chapter, it appears that causative voice marking can develop an applicative function (§7.5.3) and applicative voice marking can develop a causative function (§7.6.3). Likewise, observe the comparatively high probability of passive voice marking being syncretic with causative voice marking (i.e. 17.5 percent). Causative voice marking is known to have developed a passive function in a variety of languages (§7.5.2).

6.3.2 By maximal syncretism

Table 6.16 shows the distribution of maximal simplex voice syncretism in the language sample according to macroarea. Thus, unlike in the previous section, the table only encompasses voice marking restricted to two voices (e.g. Rotokas reflexive-reciprocal marking *ora-* with no other voice functions). Moreover, the figures in the table represent type 1 attestations though type 2 attestations are provided for comparison at the right hand side. The various patterns in the table are listed according to the type 1 attestations with the most frequent pattern in the top and the least frequent patterns at the bottom. The order of the patterns in this table is evidently very different from that discussed in the previous section. For instance, voice marking shared by the reciprocal and anticausative voices (minimal syncretism) is very common cross-linguistically (see Table 6.14 on page 161) yet is very often also shared by one or two other voices, while voice marking restricted specifically to the reciprocal and anticausative voices alone (maximal syncretism) has so far only been attested in a single language (see Table 6.16). By contrast, reflexive-reciprocal syncretism is the most common pattern in terms of both minimal and maximal syncretism. Reflexive-reciprocal syncretism is one of three patterns of maximal syncretism in Table 6.16 attested in each of the six macroareas, the other two patterns being causative-applicative and reflexive-anticausative syncretism. These are also the only three patterns that are moderately common cross-linguistically. Other patterns of maximal voice syncretism are quite rare and are generally only attested in three macroareas or less. In fact, as seen at the bottom of the table, four patterns remain unattested as type 1 syncretism altogether, while five other patterns are marginally attested in one language each.

Table 6.16: Maximal simplex voice syncretism (type 1)

| | AF | EA | AU | PN | NA | SA | Sum | AF | EA | AU | PN | NA | SA | Sum | cf. | Type 2 |
|-----------|----|----|----|----|----|----|-----|-----|-----|-----|------|-----|------|------|------|--------|
| REFL-RECP | 1 | 2 | 7 | 1 | 5 | 8 | 24 | (#) | 2.6 | 4.9 | 33.3 | 2.1 | 13.9 | 21.6 | 10.8 | (%) |
| CAUS-APPL | 3 | 3 | 2 | 2 | 4 | 2 | 16 | | 7.7 | 7.3 | 9.5 | 4.2 | 11.1 | 5.4 | 7.2 | |
| REFL-ANTC | 2 | 3 | 2 | 1 | 1 | 4 | 13 | | 5.1 | 7.3 | 9.5 | 2.1 | 2.8 | 10.8 | 5.9 | |
| PASS-ANTC | 3 | 2 | 0 | 0 | 2 | 0 | 7 | | 7.7 | 4.9 | 0.0 | 0.0 | 5.6 | 0.0 | 3.2 | |
| CAUS-PASS | 2 | 2 | 0 | 0 | 2 | 0 | 6 | | 5.1 | 4.9 | 0.0 | 0.0 | 5.6 | 0.0 | 2.7 | |
| PASS-REFL | 2 | 0 | 1 | 0 | 1 | 2 | 6 | | 5.1 | 0.0 | 4.8 | 0.0 | 2.8 | 5.4 | 2.7 | |
| CAUS-ANTC | 0 | 2 | 0 | 0 | 1 | 0 | 3 | | 0.0 | 4.9 | 0.0 | 0.0 | 2.8 | 0.0 | 1.4 | |
| APPL-RECP | 1 | 0 | 0 | 0 | 1 | 0 | 2 | | 2.6 | 0.0 | 0.0 | 0.0 | 2.8 | 0.0 | 0.9 | |
| ANTP-RECP | 1 | 1 | 0 | 0 | 0 | 0 | 2 | | 2.6 | 2.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | |
| APPL-ANTP | 0 | 1 | 0 | 0 | 1 | 0 | 2 | | 0.0 | 2.4 | 0.0 | 0.0 | 2.8 | 0.0 | 0.9 | |
| CAUS-ANTP | 1 | 0 | 0 | 1 | 0 | 0 | 2 | | 2.6 | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 | 0.9 | |
| CAUS-RECP | 0 | 1 | 0 | 0 | 0 | 1 | 2 | | 0.0 | 2.4 | 0.0 | 0.0 | 0.0 | 2.7 | 0.9 | |
| PASS-RECP | 1 | 0 | 0 | 0 | 0 | 0 | 1 | | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | |
| RECP-ANTC | 1 | 0 | 0 | 0 | 0 | 0 | 1 | | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | |
| APPL-PASS | 0 | 1 | 0 | 0 | 0 | 0 | 1 | | 0.0 | 2.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | |
| ANTP-ANTC | 1 | 0 | 0 | 0 | 0 | 0 | 1 | | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | |
| PASS-ANTP | 0 | 0 | 0 | 0 | 1 | 0 | 1 | | 0.0 | 0.0 | 0.0 | 0.0 | 2.8 | 0.0 | 0.5 | |
| CAUS-REFL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| APPL-REFL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| ANTP-REFL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| APPL-ANTC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | 39 | 41 | 21 | 48 | 36 | 37 | 222 | (n) |

Table 6.17: Maximal complex voice syncretism (type 1)

| | AF | EA | AU | PN | NA | SA | Sum | AF | EA | AU | PN | NA | SA | Sum | (%) |
|--------------------------|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| REFL-RECP-ANTC | 1 | 1 | 2 | 1 | 2 | 1 | 8 | 2.6 | 2.4 | 9.5 | 2.1 | 5.6 | 2.7 | 3.6 | |
| PASS-REFL-ANTC | 1 | 1 | 1 | 0 | 0 | 1 | 4 | 2.6 | 2.4 | 4.8 | 0.0 | 0.0 | 2.7 | 1.8 | |
| ANTP-REFL-RECP | 0 | 0 | 2 | 0 | 0 | 1 | 3 | 0.0 | 0.0 | 9.5 | 0.0 | 0.0 | 2.7 | 1.4 | |
| PASS-REFL-RECP | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.4 | 0.9 | |
| PASS-RECP-ANTC | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 2.6 | 2.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | |
| ANTP-REFL-ANTC | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0.0 | 0.0 | 4.8 | 2.1 | 0.0 | 0.0 | 0.9 | |
| PASS-ANTP-ANTC | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.7 | 0.5 | |
| APPL-ANTP-RECP | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0.0 | 0.0 | 0.0 | 0.0 | 2.8 | 0.0 | 0.5 | |
| CAUS-PASS-ANTC | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0.0 | 2.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | |
| CAUS-APPL-PASS | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0.0 | 0.0 | 0.0 | 0.0 | 2.8 | 0.0 | 0.5 | |
| CAUS-REFL-ANTC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| CAUS-PASS-RECP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| ANTP-REFL-RECP-ANTC | 0 | 1 | 0 | 0 | 2 | 1 | 4 | 0.0 | 2.4 | 0.0 | 0.0 | 5.6 | 2.7 | 1.8 | |
| PASS-REFL-RECP-ANTC | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 0.0 | 2.4 | 0.0 | 0.0 | 2.8 | 0.0 | 0.9 | |
| PASS-ANTP-REFL-ANTC | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0.0 | 2.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | |
| CAUS-PASS-REFL-RECP | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | |
| PASS-ANTP-REFL-RECP-ANTC | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0.0 | 2.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | |
| | | | | | | | | 39 | 41 | 21 | 48 | 36 | 37 | 222 | (n) |

Table 6.17 shows the distribution of maximal complex voice syncretism in the language sample according to macroarea. The figures in this table represent attestations of complex patterns based entirely on type 1 syncretism. By contrast, complex patterns based partly on type 1 syncretism and partly on type 2 syncretism are excluded from the table. Consequently, the table indicates that there are no attestations of maximal causative-reflexive-anticausative and causative-passive-reciprocal syncretism, even though these patterns were discussed in Chapter 5 in relation to Chukchi (see Table 5.15 on page 142) and Yine (see Table 5.14 on page 141), respectively. The complex patterns in both these languages are not based solely on type 1 syncretism and are therefore excluded from Table 6.17. Instead, for the sake of transparency, causative-reflexive-anticausative syncretism in Chukchi has been counted as three instances of maximal simplex voice syncretism in Table 6.16 under type 1 “REFL-ANTC” (-*et*) and under type 2 “CAUS-REFL” and “CAUS-ANTC” (cf. *n*...-*et* and -*et*), while causative-passive-reciprocal syncretism in Yine has been counted under type 1 “CAUS-RECP” (-*kaka*) and under type 2 “CAUS-PASS” and “PASS-RECP” (cf. -*ka* and -*kaka*). Passive-reflexive-reciprocal syncretism in Tanacross, Yauyos Quechua, and Mosetén as well as reflexive-reciprocal-anticausative syncretism in Ternate and Paresi-Haliti have been treated in a similar manner, and so has causative-applicative-passive syncretism in Chácobo.

As shown in 6.17, ten patterns of complex syncretism involving three voices are attested in the language sample. Reflexive-reciprocal-anticausative syncretism is by far the most common complex pattern attested cross-linguistically, although it has only been found in eight languages (3.6 percent). In terms of frequency, however, the pattern follows maximal reflexive-reciprocal, causative-applicative, and reflexive-anticausative syncretism (see Table 6.16), and is thereby more common than the other eighteen patterns of maximal simplex voice syncretism. The remaining patterns of maximal complex voice syncretism involving three voices are all attested in less than four languages each. In fact, four patterns are attested in a single language each. Passive-reflexive-anticausative syncretism is just as frequent cross-linguistically as the more complex pattern of antipassive-reflexive-reciprocal-anticausative syncretism, both patterns being attested in four languages. Three other patterns of complex syncretism involving four voices have been attested in the sample, albeit only marginally. In turn, as already mentioned in the previous chapter, the most complex pattern of syncretism attested in this sample (and in the literature) is passive-antipassive-reflexive-reciprocal-anticausative syncretism (§5.4) and all other patterns of complex voice syncretism involving four or more voices remain unattested for the time being. Finally, it is difficult to

make any generalisations about the geographic distribution of complex voice syncretism not only due to its overall limited number of attestations, but also because no pattern has been attested in the same area in more than one or two languages. However, it might be worth noting that the only complex pattern attested in all six macroareas is reflexive-reciprocal-anticausative syncretism. By contrast, passive-reflexive-anticausative syncretism is attested in four macroareas (remaining unattested in Papunesia and North America), while all other patterns are attested in three macroareas or less.

6.4 Overview

As shown in the beginning of this chapter, 104 of the 222 languages in the language sample (46.8 percent) feature at least one pattern of voice syncretism involving two or more of the seven voices of focus in this book (see Table 6.1 on page 149). The vast majority of these attestations represent type 1 syncretism involving full resemblance in voice marking though it is worth noting that one fourth of the languages feature type 2 syncretism involving some degree of partial resemblance (see Table 6.9 on page 155). Voices display different tendencies towards syncretism and Figure 6.1 visualises how prone individual voices are to being syncretic with at least one other voice (see Table 6.11 on page 157). The more prone a voice is to be syncretic, the further to the right on the scale it is located, and the less likely it is to be so, the further to the left. The reflexive voice displays a clear tendency towards being syncretic with other voices, and the traditional attention this voice has received in discussions of voice syncretism in the literature is therefore not unjustified from a purely distributional perspective (§6.3). Other voices associated with middle syncretism also clump together towards the right side of the scale on the one hand, while the causative and applicative voices are considerably less prone to be syncretic on the other hand. In turn, the antipassive voice is located in between these two poles.

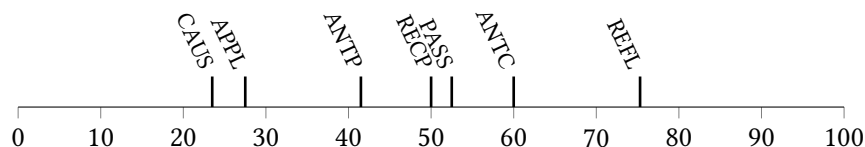


Figure 6.1: Tendency towards voice syncretism (%)

The bar chart in Figure 6.2 shows the attestations of the various patterns of voice syncretism attested in the language. The solid (or black) parts of the bars indicate type 1 syncretism while the hollow (or white) parts of the bars indicate type 2 syncretism. The chart is based on the data in Table 6.13 on page 159 and thus covers minimal voice syncretism, showing the numbers of languages in which any two given voices have been found to share the same marking. Evidently, middle syncretism is undoubtedly the most prevalent kind of voice syncretism attested cross-linguistically, though patterns of causative-applicative, causative-passive and antipassive voice syncretism are comparatively common as well. Other patterns have only been attested in a handful of languages or less with one pattern, applicative-anticausative syncretism, being unattested altogether. Only five patterns of voice syncretism have been attested in all six macroareas of the world: the four most common patterns listed in Figure 6.2 in addition to antipassive-anticausative syncretism (see Table 6.14 on page 161).

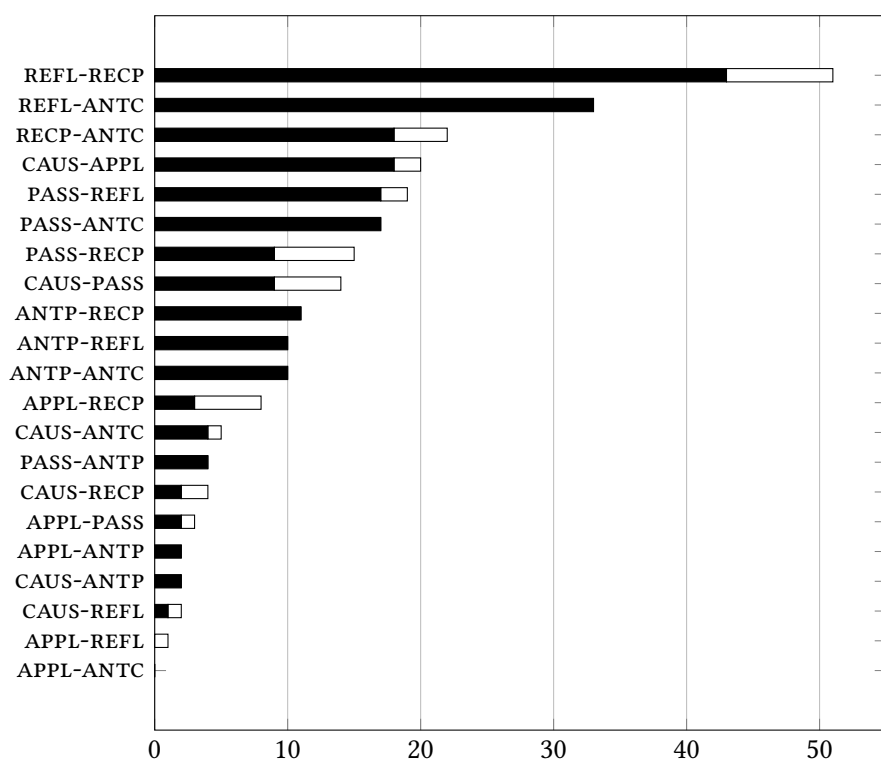


Figure 6.2: Attestations of minimal voice syncretism

Reflexive-reciprocal syncretism is also the most prevalent pattern of maximal voice syncretism in the language sample with voice marking restricted to the reflexive and reciprocal voices being attested in 24 languages, in other words more than half of the languages for which minimal reflexive-reciprocal syncretism has been attested in Table 6.2. Maximal causative-applicative and reflexive-anticausative syncretism are also comparatively common among the languages in the sample (attested in sixteen and thirteen languages, respectively) while other patterns of maximal simplex voice syncretism remain quite rare (see Table 6.16 on page 164). In terms of maximal complex voice syncretism, only reflexive-reciprocal-anticausative voice syncretism is attested in more than a handful of languages, though passive-reflexive-anticausative and antipassive-reflexive-reciprocal-anticausative syncretism are attested in four languages each (see Table 6.17 on page 165). Interestingly, the latter pattern is cross-linguistically more prevalent than passive-reflexive-reciprocal-anticausative syncretism often associated with Indo-European languages. In total, ten patterns of complex syncretism involving three voices is attested in the sample, four patterns involving four voices, and a single pattern involving five voices. The passive-antipassive-reflexive-reciprocal-anticausative syncretism has so far only been attested in Permic languages as well as in the Slavic language Russian (all EA) and currently represents the upper limit of how many voices might share the same voice marking.

7 Diachrony of voice syncretism

Voice syncretism has been described mainly in synchronic terms in the previous chapters, though a few brief diachronic comments have been provided sporadically. This chapter investigates the diachronic development of voice syncretism in a more systematic manner. If it is assumed that voice marking in each of the seven voices of interest in this book (i.e. passive, reflexive, reciprocal, anticausative, antipassive, causative, applicative) can hypothetically develop one of the other six voice functions, 42 directional paths of voice development can logically be posited. Nevertheless, it has only been possible to find plausible evidence for the twenty paths that are not shown within parentheses in Table 7.1. These paths serve as the focus of this chapter. In turn, the three paths within parentheses are also briefly discussed, yet evidence for these paths is tentative or lacks altogether. As evident in the table, antipassive voice marking has so far not been found to develop other voice functions in any language.

Table 7.1: Developmental paths of voice syncretism

| Reflexive origin | | | Reciprocal origin | | | Anticausative origin | | |
|------------------|---|------|-------------------|---|-------|----------------------|---|-------|
| REFL | → | RECP | RECP | → | REFL | ANTC | → | REFL |
| REFL | → | ANTC | RECP | → | ANTC | ANTC | → | RECP |
| REFL | → | PASS | (RECP | → | PASS) | ANTC | → | PASS |
| REFL | → | ANTP | RECP | → | ANTP | (ANTC | → | ANTP) |
| | | | RECP | → | CAUS | | | |
| | | | RECP | → | APPL | | | |
| Passive origin | | | Causative origin | | | Applicative origin | | |
| PASS | → | REFL | CAUS | → | ANTC | (APPL | → | RECP) |
| PASS | → | RECP | CAUS | → | PASS | APPL | → | ANTP |
| PASS | → | ANTC | CAUS | → | APPL | APPL | → | CAUS |

The developmental paths listed in Table 7.1 represent somewhat simplified scenarios of how voice syncretism develops, as voice marking – whether it is syn-

cretic or not – often has various additional semantic functions not qualifying as voice. For instance, in some languages reciprocal voice marking can also be used to express sociativity (§7.2). Consequently, it must be assumed that each of the developments of voice syncretism shown in Table 7.1 might potentially involve other semantic functions than merely voice. In other words, the rise of syncretic voice marking is not necessarily facilitated by a single voice function alone but jointly by the voice function in question and any other semantic functions that the marking might have or have had. Such additional functions of voice marking are duly acknowledged throughout this chapter and can serve as important bridging contexts in the rise of voice syncretism (Heine & Kuteva 2007). However, given the focus on voice in this book, the main interest of this chapter is syncretic voice marking for which it can plausibly be demonstrated that one voice function evolved *prior* to other voice functions. For example, if synchronic reflexive-reciprocal voice marking was originally used for reflexivity (and other potential non-voice functions) or for reciprocity (and other potential non-voice functions like sociativity mentioned above). In other words, if the reflexive-reciprocal syncretism in question has a reflexive or reciprocal origin. By contrast, diachronic cases and scenarios in which it is unclear what voice function(s) evolved first are largely ignored in this chapter, and the chapter does not cover coincidental convergence either. Moreover, observe that descriptions of diachronic developments “from” a voice “to” another voice in this chapter do *not* imply that voice marking loses one voice function in favour of another voice function. On the contrary, descriptions of this sort simply serve as a convenient way of expressing that the marking found in one voice comes to be used as marking in another voice as well – or, in other words, marking with one voice function develops an additional voice function.

Certain developmental paths of voice syncretism have received considerable attention in the literature, notably paths associated with middle syncretism. Interestingly, however, there is not necessarily more diachronic evidence available for such paths than for other paths. In fact, as this chapter shows, the general lack of historical and comparative data for the vast majority of the world’s languages and genera makes it difficult to find concrete evidence for any given path of development. Consequently, data from historically well-attested languages, in particular from Indo-European languages, tend to get recycled in the literature, and it is not uncommon that diachronic developments in attested in these languages are presupposed in languages with little historical and/or comparative data available. For the sake of linguistic diversity, Indo-European languages receive only little attention in this chapter while discussions of other language

families and genera predominate. Furthermore, a strict distinction is maintained between synchronic observation and diachronic development, meaning that the synchronic attestation of a pattern of syncretism is not automatically linked to any diachronic process. It is only deemed plausible that a given voice development has taken place in a particular language if genus- or family-internal comparative reconstructions and/or historical data provide evidence for the development in question. The diachronic development of voice syncretism in a given language is otherwise considered unresolved for the time being, and the ultimate origin of the syncretism regarded as uncertain. Evidence based solely on the language-specific synchronic distributional frequency or productivity of voice functions is accordingly approached with caution, because such evidence cannot necessarily account for the loss of semantic functions. For example, as described in the next section, the passive-reciprocal-anticausative suffix *-s* in the Germanic language Danish (EA) has a reflexive diachronic origin but retains no reflexive function synchronically.

7.1 Reflexive origin

Voice syncretism of reflexive origin is probably the best known and most extensively discussed voice diachrony in the literature (Haspelmath 1990; 2003; Kemmer 1993; Heine 2000; Heine & Kuteva 2002; Heine & Miyashita 2008; Maslova 2008; Janic 2010; Sansò 2017; 2018). Most notably, due to the long written tradition of Indo-European languages and centuries of comparative research, it is well known that the Proto-Indo-European reflexive pronoun **s(u)e* (Kulikov 2010: 397; 2013: 276) has grammaticalised into a reflexive affix in many descendant languages which has later developed reciprocal, anticausative, and passive functions. This development is illustrated in Table 7.2 by examples from the Germanic language Danish, the Romance language Spanish, and the Slavic language Russian (all EA). In certain Indo-European languages the affix has even developed an antipassive function, notably in Russian (§5.4), but also in, for example, certain dialects of Danish (e.g. *bid-s* ‘to bite [sb.]’, Berkov 1985: 62 via Nedjalkov 2007d: 297) and standard Swedish (cf. *bit-s* with the same meaning as the Danish cognate). In Russian this function is almost as common as the reciprocal function (Knjazev 2007: 681) while it is marginal and/or fossilised in Danish and Swedish. Moreover, note that the suffix *-s* in Danish has lost its reflexive function and its anticausative function has become almost obsolete, like in other Scandinavian languages, but both functions were present in earlier stages of the languages (cf. Old Norse *verja-sk* ‘to protect self’, Ottosson 2008: 203). Note also that the

Spanish voice marker *-se* only is used with infinitive, gerundive and imperative verbal forms (e.g. *alegrando-se* ‘rejoicing’, *álégre-se* ‘rejoice’), while the particle *se* is used elsewhere (e.g. *se alegra* ‘s/he rejoices’).

Table 7.2: Voice syncretism of reflexive origin in Indo-European

| P.-I.-E. | *s(u)e | REFL | → | RECP | ANTC | PASS |
|----------|--------|----------------------|---|-------------------|---------------------|------------------------|
| Danish | -s | – | | <i>se-s</i> | <i>glæde-s</i> | <i>bygge-s</i> |
| Spanish | -se | <i>defender-se</i> | | <i>ver-se</i> | <i>alegrar-se</i> | <i>construir-se</i> |
| Russian | -sja | <i>zaščičat'-sja</i> | | <i>videt'-sja</i> | <i>radovat'-sja</i> | <i>stroit'-sja</i> |
| | | ‘to protect self’ | | ‘to see e.o.’ | ‘to rejoice’ | ‘to be built [by sb.]’ |

Owing in large part to observations from Indo-European languages, the development of passive, reciprocal, and anticausative functions from a reflexive function is widely believed to be unidirectional and follow certain paths of development. For instance, [Heine & Miyashita \(2008: 216\)](#) argue that “reflexives may grammaticalize into reciprocals, whereas reciprocals do not seem to grammaticalize into reflexives”, and [Kazenin \(2001b: 921\)](#) states that “[i]t has been shown that the development always goes unidirectionally from reflexive to passive (via anticausative [...])”. The latter development has famously been elaborated and visualised by [Haspelmath \(1990; 2003\)](#), who argues that “grammatical morphemes can only acquire new meanings from left to right” in [Figure 7.1](#). There is undoubtedly good evidence for these diachronic scenarios, and additional evidence will be provided in the following sections, yet the unidirectionality is not acknowledged in this book. As demonstrated later in the chapter, there is growing evidence for reverse or opposite developments as well.

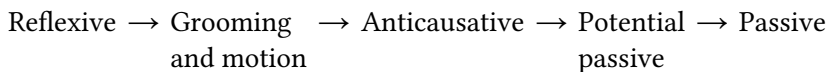


Figure 7.1: Unidirectional voice development (Haspelmath 2003)

As already mentioned in the beginning of this chapter, there is a general lack of historical and comparative data available for most of the world's languages and genera, and the chronological order in which different functions of voice marking evolve consequently remains obscure in many languages. Moreover, as remarked by Kemmer (1993: 197), voice markers can be “so grammaticalized in all their occurrences across a particular family that no diachronically prior function can

be stated with confidence”. In fact, clear examples of voice syncretism of reflexive origin in languages outside the Indo-European language family discussed above can be rather difficult to find, but various potential candidates are presented and discussed in the following sections.

7.1.1 From reflexive to reciprocal

Voice development from reflexive to reciprocal has been discussed extensively in the literature, particularly in relation to non-affixal periphrastic reflexive and reciprocal constructions (Heine 2000; Heine 2000; Heine & Kuteva 2002: 254; Heine & Miyashita 2008; Maslova 2008). By contrast, evidence for verbal reflexive-reciprocal syncretism of reflexive origin is surprisingly scarce, though some clear cases of such syncretism have been reported in the literature. Most notably, as already described in the previous section, the Proto-Indo-European reflexive pronoun **s(u)e* (Kulikov 2010: 397; 2013: 276) has grammaticalised into a reflexive affix and developed a reciprocal function in languages of several Indo-European genera. Reflexive-reciprocal syncretism of reflexive origin has also been noted occasionally for the Nilotic genus of Africa in which the Proto-Nilotic noun **ri* ‘body’ has grammaticalised into a reflexive suffix and developed a reciprocal function in some descendant languages (Kemmer 1993: 193ff.; Heine & Miyashita 2008: 191f.). This development is illustrated in Table 7.3 (Luo = Tucker 1994: 159; Lango = Noonan 1992: 101). Haspelmath (1990: 44) observes a very similar development in the Biu-Mandara language Bura (AF) in which the reflexive-reciprocal-anticausative suffix *-dzi* is related to the noun *dzá* ‘body’.

Table 7.3: REFL-RECP syncretism of REFL origin in Nilotic

| Proto-Nilotic | <i>*ri</i> ‘body’ | | REFL | → | RECP |
|---------------|-------------------|-----------------|----------------|---|----------------|
| Luo | <i>-rê</i> | <i>lwóko-rê</i> | ‘to wash self’ | | ‘to wash e.o.’ |
| Lango | <i>-(ér)ê</i> | <i>câη-érê</i> | ‘to heal self’ | | ‘to heal e.o.’ |

Reflexive-reciprocal syncretism in languages of another African genus, Dogon, might have a reflexive origin as well. Three languages of this genus appear to possess cognates of the same suffix: Donno So *-e/-i/u*, Tommo So *-i/-e*, and Toro So *-ie*. Culy & Fagan (2001) reconstruct the suffix **-ie* for their ancestral language (here called Proto-So for the sake of convenience) and argue that its original function likely was reflexive based on the fact that this function is attested in each of the three languages. Reflexes of this suffix in Donno So and

Tommo So – but not in Toro So – can also serve as voice marking in the reciprocal voice, a function which Culy & Fagan consider a later development. This development is illustrated in Table 7.4 (Culy & Fagan 2001: 181f., 188). Nevertheless, it can alternatively be hypothesised that the marker **-ie* was characterised by reflexive-reciprocal syncretism already in Proto-So and that the reciprocal function eventually was lost in Toro So.

Table 7.4: REFL-RECP syncretism of REFL origin in Dogon

| Proto-So | <i>*-ie</i> | REFL | → | RECP | |
|----------|-----------------|--------------|----------------|---------------|----------------|
| Donno So | <i>-e/-i/-u</i> | <i>yab-ε</i> | ‘to save self’ | <i>tamb-ε</i> | ‘to kick e.o.’ |
| Tommo So | <i>-i/-e</i> | <i>joŋ-i</i> | ‘to heal self’ | <i>bε-i</i> | ‘to hit e.o.’ |

Heine (2000) argues for a general unidirectional development from reflexive to reciprocal among languages in Africa based on a survey of 62 languages spoken on the continent. However, while there are good grounds for postulating such development for non-affixal periphrastic reflexive and reciprocal constructions on the basis of his survey, the scenario cannot automatically be extended to affixal reflexive-reciprocal syncretism. Heine’s (2000: 20ff.) sample includes only six languages featuring an affix serving as voice marking in both the reflexive and reciprocal voices, three of which belong to the Nilotic genus already discussed above (Luo, Acholi, Kalenjin). The remaining three languages are the Bantu language Kisi, and the Central Sudanic languages Lese and Mangbetu, yet the authors of the sources cited by Heine for these languages do not mention nor provide any evidence for a voice development from reflexive to reciprocal (see Childs 1995 on Kisi, Vorbichler 1965 on Lese, and Larochette 1958 on Mangbetu). Nevertheless, reflexive-reciprocal syncretism of reflexive origin is attested in a Bantu language included the language sample of this book, Namibian Fwe. In this language the reflexive prefix *ri-* has developed a reciprocal function, whereas the historical reciprocal suffix *-an* (cf. Proto-Bantu **-an*) has become almost obsolete (Gunnink 2018: 257ff., 270f.). Moreover, it can be mentioned here that Heine & Miyashita (2008) briefly discuss the reflexive-reciprocal syncretism of the suffix *-veñine* in the Edoid language Degema, albeit not directly in relation to its diachrony. In any case, there does not seem to be any diachronic data on the precise origin of this suffix and its functions (cf. Kari 2004).

It seems that there are few attested cases of reflexive-reciprocal syncretism of reflexive origin outside of Eurasia and Africa in the literature, and examples from Indo-European genera tend to be recycled. For instance, oft-cited Heine &

Kuteva (2002: 254) and Maslova (2008: 233ff.) only provide examples from Russian. Heine & Miyashita (2008) do not provide any concrete examples of reflexive-reciprocal syncretism outside of Eurasia and Africa either, although they mention reflexive-reciprocal syncretism characterised by the suffix *-v* in the Yuman language Hualapai (NA) and by the suffix *-inydji* in the Western Pama-Nyungan language Djinang (AU) in their general discussion of the relationship between reflexivity and reciprocity. However, there does not seem to be any evidence for the diachronic development of the functions of the Hualapai prefix (Watahomigie et al. 1982; Sohn 1995; Ichihashi-Nakayama et al. 1997), and Waters (1989: 149) argues that the reciprocal – not the reflexive – function “was probably the proto-function” of the Djinang suffix (see also §7.2.1 and Heine & Miyashita 2008: 199f.). Thompson (1996: 375) argues that the reciprocal function of the so-called *d*-classifier found throughout the Na-Dene language family (cf. Proto-Na-Dene **də-*) has evolved from a reflexive function. Nevertheless, the reflexive and reciprocal functions are both attested throughout the language family, for which reason an alternative origin for the reflexive-reciprocal syncretism in these languages cannot be automatically rejected.

Despite reflexive-reciprocal syncretism being the most common kind of voice syncretism among the languages in the language sample (§6.3.1), a reflexive origin can only be established with some certainty for a small number of the languages. For instance, as described and illustrated in §5.1, the prefix *hup-* in the Nadahup language Hup (SA) serves as voice marking in the passive, reflexive, and reciprocal voices. Epps (2008: 474, 486) argues that the prefix ultimately derives from the noun *hup* ‘human, person’ which has the cognate *xup* ‘body’ in the related language Dâw. Likewise, in the Yuman language Jamul Tiipay (NA) the prefix *mat-* found in the reflexive and reciprocal voices is derived from the noun *maat* ‘body’ (Miller 2001: 167). This prefix also has an anticausative function described in the next section. Hup and Jamul Tiipay are likely to have undergone a development similar to that described for the Nilotic languages in the beginning of this section (see Table 7.3 on page 175). Furthermore, as also noted in §5.1, the prefix *mo-* in the Uto-Aztec language Huasteca Nahuatl (NA) serves as voice marking in the passive, reflexive, reciprocal, and anticausative voices. This prefix can be traced to Proto-Uto-Aztec **mo-* for which Langacker (1976) reconstructs a reflexive function (see also Anderson et al. 1976: 16), suggesting that the reciprocal and other functions represent later developments. Similarly, in the Tupi-Guaraní language Emerillon (SA) the reflexive-reciprocal prefix *ze-* (Rose 2003: 348ff.) is a reflex of the Proto-Tupi-Guaraní reflexive prefix **je-* which historically contrasted with reciprocal **jo-* (Jensen 1998: 534f.). The developments

in these four languages are illustrated in Table 7.5 (Hup = Epps 2008: 479, 486; Jamul Tiipay = Miller 2001: 166f.; Huasteca Nahuatl = Llanes et al. 2017: 90; Emerillon = Rose 2003: 349f.).

Table 7.5: REFL-RECP syncretism of REFL origin in the Americas

| | REFL | | → RECP | |
|----------------|-------------------|----------------|----------------------|---------------------|
| Hup | <i>hup-kit-</i> | ‘to cut self’ | <i>hup-nɔʔ-</i> | ‘to give e.o. sth.’ |
| Jamul Tiipay | <i>mat-aaxway</i> | ‘to kill self’ | <i>mat-tetekyuut</i> | ‘to greet e.o.’ |
| Huast. Nahuatl | <i>mo-ilpi-</i> | ‘to tie self’ | <i>mo-ita-</i> | ‘to see e.o.’ |
| Emerillon | <i>-ze-kusug</i> | ‘to wash self’ | <i>-ze-potal</i> | ‘to love e.o.’ |

As discussed in more detail in §7.2.1, it has often been noted in the literature that several Australian genera feature what seem to be cognates of an ancestral reflexive proto-suffix **-yi*. If this reconstruction is accepted, the suffix appears to have developed a reciprocal function among Worrorran and Mangrida languages (Alpher et al. 2003: 341ff.; Green 2003: 388). The only potential evidence for reflexive-reciprocal syncretism of reflexive origin among Papunesian languages in the sample can be found in the North Halmaheran language Ternate (PN) in which the reflexive prefix *ma-* and the reciprocal prefix *maku-* bear some resemblance (i.e. type 2 syncretism). The related language Tidore features the same marking as Ternate (Nedjalkov 2007d: 244) while another related language, Sahu, features very similar marking (cf. reflexive *ma-*, reciprocal *ma’u-*, Heine & Miyashita 2008: 199). However, although the reflexive prefixes are less complex than the reciprocal prefixes in these languages, the diachrony of the prefixes and their functions remain obscure. Heine & Miyashita (2008: 198f.) provide three other examples of similar syncretism from the Highland East Cushitic language Alaaba (AF; cf. passive *-am* and reciprocal *-akk’-am*, see §7.4.2), the Semitic language Amharic (AF; cf. reflexive *tä-* and reciprocal *tä-* plus reduplication), and the Uto-Aztecan language Oklahoma Comanche (cf. passive-reflexive *na-* and reciprocal *nanah-*). Additional examples can be found in §3.2.3. By contrast, compare the reflexive suffix *-l’at* and the reciprocal suffix *-’at* in the South Guaicuruan language Pilagá (SA; Vidal 2001: 171f., 201ff.).

With regard to a functional diachronic explanation for reflexive-reciprocal syncretism of reflexive origin, Heine & Miyashita (2008: 194) propose three plausible “[s]tages in the transition from reflexive to reciprocal” presented in Figure 7.2. Heine & Miyashita (2008: 194) further specify that “[v]erbs used in Stage-III contexts tend to be referred to by labels such as inherently reciprocal verbs, symmet-

ric predicates, etc., typically including items such as ‘chat’, ‘follow’, ‘greet’, ‘kiss’, ‘marry’, ‘meet’, ‘shake hands’, etc.” As shown in Figure 7.1 on page 174, Stage II can involve some kind of grooming or body motion as an intermediary step towards becoming a full-fledged reciprocal, e.g. ‘s/he washes self’ → ‘they wash themselves’ → ‘they wash each other’. Heine & Miyashita (2008: 194) regard the development in Figure 7.2 as unidirectional, yet it is worth observing that the opposite development appears to have taken place in several geographically diverse languages, as further discussed in §7.2.1. Thus, in this book reflexivity is considered but one possible origin of reflexive-reciprocal syncretism.

- | | |
|-----------|---|
| Stage-I | “There is a grammatical marker (and an associated construction) having a reflexive meaning when used with singular antecedent referents. |
| Stage-II | When used with multiple antecedents, the marker may receive a reciprocal meaning in addition – the result being ambiguity. |
| Stage-III | When used with multiple antecedents in specific contexts (e.g., with symmetric predicates), reciprocal is the only meaning”. (Heine & Miyashita 2008: 194) |

Figure 7.2: Reflexive-reciprocal syncretism of reflexive origin

7.1.2 From reflexive to anticausative

Voice development from reflexive to anticausative is commonly discussed in relation to its role as an intermediary stage in the development from reflexive to passive, as already shown in §7.1 (see Figure 7.1 on page 174) and further discussed in the next section. Such development is often exemplified by data from Indo-European languages, yet examples of the phenomenon can be found sporadically in other genera as well. For instance, in the language isolate Nivkh (EA) the reflexive-anticausative marker p^h - is derived from the reflexive pronoun p^hi (Nedjalkov & Otaina 1981: 191f.; 2013: 108f.; Haspelmath 1990: 44; Nedjalkov et al. 1995), and in the Central Arawakan language Paresi-Haliti (SA) the reflexive-anticausative suffix *-oa* can be traced back to the Proto-Arawakan reflexive suffix **-wa* (Wise 1990: 109f.). In the Gunwinyguan language Nunggubuyu (AU) the suffix *-i* serving as voice marking in the reflexive, anticausative and antipassive voices descends from the Proto-Gunwinyguan reflexive suffix **-yi* (§7.2.1). Likewise, as mentioned in the previous section, the prefix *mo-* found in the reflexive and anticausative voices in the Uto-Aztecan language Huasteca Nahuatl (NA)

probably evolved from an original reflexive function (cf. Proto-Uto-Aztecan reflexive **mo-*, Langacker 1976). As also briefly mentioned in the previous section, the prefix *mat-* derived from the noun *maat* ‘body’ and characterising the reflexive and reciprocal voices in the Yuman language Jamul Tiipay (NA) also has a marginal anticausative function. Jamul Tiipay thus appears to have undergone a development similar to that discussed for Nivkh above. The development from reflexive to anticausative in these languages is illustrated in Table 7.6 (Nivkh = Nedjalkov et al. 1995: 69; Paresi-Haliti = Brandão 2014: 248f., 255; Nunggubuyu = Heath 1984: 390; Huasteca Nahuatl = Llanes et al. 2017: 90ff.; Jamul Tiipay = Miller 2001: 166f.).

Table 7.6: REFL-ANTC syncretism of REFL origin across the world

| | REFL | | → | ANTC |
|------------------|--------------------------|-------------------|----------------------------|---------------|
| Nivkh | <i>p^h-χa-</i> | ‘to shoot self’ | <i>p^h-χav-</i> | ‘to get hot’ |
| Paresi-Haliti | <i>airikoty-oa</i> | ‘to cut self’ | <i>txiholaty-oa</i> | ‘to open’ |
| Nunggubuyu | <i>balh-i-</i> | ‘to cut self up’ | <i>n^gand-i-</i> | ‘to sink’ |
| Huasteca Nahuatl | <i>mo-ilpi-</i> | ‘to tie self’ | <i>mo-kweso-</i> | ‘to get sad’ |
| Jamul Tiipay | <i>mat-sxwan</i> | ‘to scratch self’ | <i>mat-uunall</i> | ‘to get lost’ |

In addition to Eurasia, Australia, and the Americas, reflexive-anticausative syncretism of reflexive origin has also been attested in Africa. For instance, as briefly mentioned in the previous section, in the Biu-Mandara language Bura the suffix *-dzi* related to the noun *dzá* ‘body’ is not only used in the reflexive and reciprocal voices, but also in the anticausative voice (Haspelmath 1990: 44). In contrast, it has not been possible to find any examples of reflexive-anticausative syncretism of reflexive origin among Papunesian languages. In the language sample only three Papunesian languages feature identical voice marking in both the reflexive and anticausative voices: the North Halmaheran language Ternate (*ma-*), the Torricelli language Yeri (*d-*), and the language isolate Oksapmin (*t-*). However, there is currently little historical and comparative data available to shed light on the chronology of the different functions of the voice marking in the languages, though Loughnane (2009: 100) very tentatively suggests that the Oksapmin prefix *t-* may be related to reciprocity (which is synchronically marked by the prefix *gos-*). As noted in the previous section, the Ternate prefix *ma-* and the Yeri prefix *d-* also serve as voice marking in the reciprocal voice, while the Oksapmin prefix *t-* also has an antipassive function (§5.2.2).

Voice development from reflexive to anticausative has been explained in terms of semantic bleaching by Haspelmath (1990: 45) who states that “[t]he anticausative use is more general than the reflexive use in that it is not restricted to clauses with an agentive subject, and it is bleached in that the element of self-affecting action is absent”. It can further be argued that the semantic bleaching probably takes place initially among verbs for which an animate semantic participant is conceivable, as reflexivity requires a semantic participant acting upon itself, e.g. ‘to stretch (oneself)’ and ‘to stand (oneself) up’. Verbs of this kind are commonly called autocausative in the literature, yet qualify as anticausative in this book (§2.2.4). Subsequently, the anticausative function extends to verbs for which an animate semantic participant is inconceivable, e.g. ‘to shatter’ and ‘to split’. Although this diachronic development is generally considered unidirectional (§7.1), Inglese (2020) has recently argued that the opposite development might have taken place in the extinct Indo-European language Hittite (§7.3.1).

7.1.3 From reflexive to passive

Voice development from reflexive to passive has received much attention in the literature and is widely believed to involve an intermediary anticausative stage as already noted in §7.1 (see Table 7.1 on page 174; see also Haspelmath 1990: 44f.; Kemmer 1993: 197f.; Heine & Kuteva 2002: 253; Zúñiga & Kittilä 2019: 225f.). In fact, Heine & Miyashita (2008: 205) argue that “[i]t would seem that there is in fact a universally well-attested evolution from reflexive (via anticausative and related functions) to passive markers”. This belief essentially entails two developments: from reflexive to anticausative and from anticausative to passive. The former development has been discussed in the previous section, while the latter is discussed in §7.3.3. However, note that such two-step development may give the false impression that the passive function evolves only from the anticausative function separately from the reflexive function. In fact, voice marking known to have undergone such development generally retains both a reflexive function and an anticausative function at the dawn of the passive function. Thus, it may be more accurate to describe the voice development under discussion in terms of syncretic reflexive-anticausative voice marking developing a passive function. This kind of development has been described most notably for Indo-European languages (see Table 7.2 on page 174). Another oft-cited case is provided by Heine & Kuteva (2002: 44; 2007: 110ff.) from the Ju-Kung language Western !Xun (AF) in which the noun /é ‘body’ has undergone a development similar to that attested for Indo-European languages, yet the noun in question has not evolved into an affix for which reason the language is not discussed further here. The same is true

for other African languages, including the Central Sudanic language Ma'di (cf. *rū* 'body', Heine & Miyashita 2008: 203f.) and the Biu-Mandara language Margi (cf. *kár* 'head', Haspelmath 1990: 44).

In fact, clear examples of voice development from reflexive-anticausative to passive involving verbal voice marking in non-Indo-European languages are difficult to obtain, as a lack of diachronic data for most languages blurs the chronological order in which the different functions evolve. For instance, Llanes et al. (2017: 102) suggest that the prefix *mo-* in the Uto-Aztecan language Huasteca Nahuatl (NA) already encountered in the previous two sections "has undergone two fairly widespread pathways of grammaticalization from the original reflexive use: reflexive > reciprocal, and reflexive > middle > impersonal/passive". The reflexive function of the prefix does indeed seem to be the oldest (cf. Proto-Uto-Aztecan reflexive **mo-*, Langacker 1976), but Llanes et al. (2017) provide no evidence for the latter pathway (see §7.1.1 for a discussion of the former). In fact, Llanes et al. (2017: 102) admit that "none anticausative use has been documented in the corpus for the prefix *mo-*" (sic), though at least two verbs do actually seem to have an anticausative use (§5.1), yet this function is evidently rare. Likewise, as shown in §5.1, the suffix *-yii/-V* in the Tangkic language Kayardild (AU) serves as voice marking in the passive, reflexive, and anticausative voices, and the reflexive function of the suffix is likely to be the oldest (§7.2.1). However, the more precise diachronic development of its other functions remains obscure. A few additional languages in the language sample feature voice marking shared by the passive, reflexive, and anticausative voices for which there are even less historical and comparative data available, e.g. the Tibeto-Burman language Dhimal (EA) and the language isolate Sandawe (AF). Although a development from reflexive to passive via an anticausative intermediary stage is plausible for all these languages, alternative development scenarios cannot automatically be ruled out.

The possibility of a development directly from reflexive to passive without an intermediary anticausative stage has largely been ignored in the literature. Nevertheless, it is worth observing that there are languages in which the reflexive and passive voices are characterised by voice marking for which there appears to be no evidence for (nor traces of) an anticausative function. For example, McFarland (2009: 188) argues that "all verb forms in *-kan*" in the Totonacan language Filomeno Mata Totonac (NA) can represent a reflexive or passive voice depending on context, while the suffix in question has no attested anticausative function. When a passive reading is intended, the agent cannot be expressed syntactically and the passive function is thus more precisely absolute passive (McFarland 2009: 188). The related languages Upper Necaxa Totonac, Coatepec

Totonac, Tlachichilco Tepehua, Huehuetla Tepehua, and Pisaflores Tepehua are more or less similar to Filomeno Mata Totonac in this respect (Beck n.d.: 22ff.). Another very similar example of such reflexive-passive syncretism comes from the Huitotoan language Bora (SA) in which the suffix *-meí* has reflexive and passive functions, but no anticausative function (Thiesen & Weber 2012: 147f.; Seifart 2015: 1499f.). Both the passive and reflexive functions of the affixes *-kan* and *-meí* are illustrated in Table 7.7 (Totonacan = Beck n.d.: 22ff.; Bora = Thiesen & Weber 2012: 148).

Table 7.7: PASS-REFL syncretism in Totonacan and Bora

| | | REFL | PASS |
|----------------------|-----------------------|----------------|-------------------------|
| Fil. Mata Totonac | <i>laaqtsin-kan</i> | ‘to see self’ | ‘to be seen [by sb.]’ |
| Upper Necaxa Totonac | <i>laʔtsín-kan</i> | ‘to see self’ | ‘to be seen [by sb.]’ |
| Coatepec Totonac | <i>pa:ški:-kan</i> | ‘to love self’ | ‘to be loved [by sb.]’ |
| Pisaflores Tepehua | <i>mispaa-kan</i> | ‘to know self’ | ‘to be known [by sb.]’ |
| Bora | <i>wáhdáhínú-meí</i> | ‘to cut self’ | ‘to be cut [by sb.]’ |
| | <i>dsíjivétsá-meí</i> | ‘to kill self’ | ‘to be killed [by sb.]’ |

The ultimate origins of the Totonacan suffix *-kan* and the Bora suffix *-meí* remain unknown for the time being, but considering the currently available data on the suffixes it is clear that there is no indication nor evidence for any anticausative involvement. Observe that the suffix *-kan* also indicates a plural possessor on nouns in Filomeno Mata Totonac, Coatepec Totonac, and Huehuetla Tepehua (Beck n.d.: 32). In Upper Necaxa Totonac and Tlachichilco Tepehua similar but distinct suffixes are employed for this particular function, *-kən* and *-k’an*, respectively. Considering the plural possessive function of the nominal suffix *-kan* and the lack of an identifiable agent associated with the verbal suffix *-kan*, the passive function may have developed from a “generalized-subject construction” (Haspelmath 1990: 49f.; called “indefinite subject construction” by Zúñiga & Kittilä 2019: 224f.). This is mere speculation, however, and does not readily explain the reflexive function of the verbal suffix *-kan*. The only non-reflexive and non-passive function of the Bora suffix *-meí* is characterised by an attempt to do something (e.g. *tsájtyé-meí* ‘to try to carry sth.’, *éjéhtsó-meí* ‘to try to run’, Seifart 2015: 1500) which does not shed much additional light on the origin of its passive and reflexive functions.

Additionally, as illustrated in §5.1 and briefly discussed in §7.1.1, in the Nadahup language Hup (SA) the prefix *hup-* derived from the noun *hup* ‘human, person’ (cf. the cognate *xup* ‘body’ in the related language Dâw, Epps 2008: 486) serves as voice marking in the passive, reflexive, and reciprocal voices. By contrast, there is currently no good evidence for any anticausative function of the prefix in question. Epps (2008: 314, 476) mentions only one “semi-lexicalized and/or semi-idiomatic” use of the prefix which bears weak resemblance to an anticausative function with a single verb, *hup-kád* ‘to turn’ or ‘to be turned [by sb.]’ (cf. *kád* ‘to pass sth.’, *d’oʔ-kád* or *d’oʔ-hup-kád* ‘to turn sth.’). The prefix *d’oʔ-* is a causative marker, lit. ‘take’ (Epps 2008: 518). The available data suggest that the reflexive-passive syncretism in Hup is of reflexive origin, though “further study will shed more light on the processes of grammaticalization that led to the present system” (Epps 2008: 487). Alternatively, the passive function of the prefix *hup-* may have developed through a generalized-subject construction (cf. the discussion of the Totonacan languages above) directly from the noun *hup* which can have the generic meaning ‘someone’ in some contexts (Epps 2008: 479).

Finally, Heine & Kuteva (2002: 253) argue that the singular reflexive suffix *-o/-a* and the plural reflexive suffix *-os/-as* in the Nilotic language Ateso (AF) have developed a passive function without mentioning any intermediary anticausative stage. Nevertheless, the authors of the source which Heine & Kuteva cite, Hilders & Lawrance (1956), provide little evidence for the diachrony of the suffixes, only stating that sometimes the form which they choose to call reflexive “is preferred” to express passivity (Hilders & Lawrance 1956: 57). In a more recent grammar of the language, Barasa (2017: 175ff.) demonstrates that the suffix *-o/-a* is reciprocal, but does not mention any reflexive function nor the suffix *-os/-as*. The passive voice marking *-oi/-ai* (Barasa 2017: 171ff.) in the language bears resemblance to the aforementioned reciprocal suffix though.

7.1.4 From reflexive to antipassive

Although antipassive-reflexive syncretism is not as well-attested as the patterns of syncretism discussed in the previous sections, the diachrony of such syncretism has attracted increasing attention during the last decades. A reflexive origin has repeatedly been proposed for antipassive-reflexive syncretism (e.g. Terrill 1997; Janic 2010; Sansò 2017; 2018), while there is currently no evidence for an opposite development from antipassive to reflexive. Terrill (1997) argues for a reflexive origin of antipassive-reflexive syncretism among languages of Australia based on a survey of twelve languages spoken on the continent: the Northern Pama-Nyungan languages Guugu Yimidhirr, Kuku-Yalanji, Djabugay, Yidiny,

Dyirbal, Nyawaygi, Warrungu, and Kalkatungu; the Central Pama-Nyungan language Diyari; the Southeastern Pama-Nyungan language Bandjalang; and the Gunwinyguan languages Ngandi and Nunggubuyu. Nevertheless, the purported antipassive voices mentioned by Terrill for Kuku-Yalanji and Diyari are not recognised here due to uncertainty about whether or not they comply with the antipassive definitions employed in this book (§4.2.4). This uncertainty also extends to Guugu Yimidhirr and Nyawaygi. As defined in §2.2.2, an antipassive voice entails one semantic participant that is less likely to be expressed syntactically than other semantic participants (or cannot be syntactically expressed at all) and this semantic participant is not an agent. However, the antipassive voice cited by Terrill for Guugu Yimidhirr is defined by Haviland (1979: 128) according to case marking alone (by “putting the A NP into S function with the derived verb” and “putting the original O NP into some oblique case”). A similar definition is provided by Dixon (1983: 496) for Nyawaygi (“the underlying A NP of the verb now goes into S function, and the underlying O NP now takes dative or ergative-instrumental inflection”). Moreover, the purported antipassivity in Ngandi is also not acknowledged in this book due to unproductivity. Heath (1978) argues that the suffix *-i* discussed by Terrill (1997) only can have a function which “indicates indefinite or unspecified object” with a single verb in Ngandi (*da:-bu-* ‘to test, taste, try sth.’ ↔ *da:-b-i-* ‘to try [sth.], make an effort’, Heath 1978: 92).

The antipassive voices cited by Terrill (1997) for the remaining seven languages are acknowledged here and antipassive-reflexive syncretism is acknowledged for six of these languages (Yidiny *-:dji*, Djabugay *-yi*, Dyirbal *-yi* or *-yirri*, Warrungu *-li* or *-gali*, Bandjalang *-li*, and Nunggubuyu *-i*). In Kalkatungu the antipassive suffix *-yi* differs from the reflexive suffix *-ti* (at least synchronically), for which reason this language is not discussed further here. Terrill (1997: 78) ultimately argues that the various suffixes are cognates derived from some ancestral proto-suffix **-dhirri-yi* (Dixon 1980) or **-dharri* (Dixon 2002). This reconstruction is highly tentative, however, and the precise development of its functions is no more certain than the reconstructed form itself (McGregor 2013: 119f.). By contrast, it appears that a reflexive suffix **-yi* can be reconstructed rather reliably for Proto-Gunwinyguan (§7.2.1), which points to a reflexive origin for the syncretism in Nunggubuyu. This presumed development in Nunggubuyu is illustrated in Table 7.8 (Heath 1984: 390). It has so far not been possible to find examples of similar antipassive-reflexive syncretism in other Gunwinyguan languages. Note that the suffix *-i* in Nunggubuyu also has an anticausative function (§5.2.2) and the order in which this and the antipassive function evolved is uncertain. The meaning of the verb *yimunydharm-i-* is more precisely ‘to track [sth.] by smell’.

Table 7.8: ANTP-REFL syncretism of REFL origin in Nunggubuyu

| P.-Gunwinyg. | *-yi | REFL | → | ANTP |
|--------------|------|--|---|---------------------------------------|
| Nunggubuyu | -i | <i>n-i-</i> ‘to see self’ <i>balh-i-</i> ‘to cut self up’ | <i>yalgiw-i-</i> <i>yimunydharm-i-</i> | ‘to pass [sth.]’ ‘to track [sth.]’ |

Janic (2010: 159) argues that antipassive-reflexive syncretism “developed from reflexivity through functional extension” on the basis of data from ten geographically diverse languages: the Slavic languages Bulgarian and Polish, the Kartvelian language Laz, the Northern Chukotko-Kamchatkan language Chukchi (all four EA), the Cariban language Ye’kwana, the Tacanan languages Cavineña and Ese Ejja (all three SA), the Western Mande language Bambara (AF), and the Northern Pama-Nyungan languages Warrungu and Yidiny (both AU). The latter two languages have already been discussed above, while it was noted in §4.4.3 that the purported antipassive-reflexive syncretism in Laz, Bulgarian, Polish and Bambara is not acknowledged in this book due to lack of verbal voice marking. However, as mentioned in the same section, antipassive-reflexive syncretism has been observed by Creissels (2012; 2015) in another Western Mande language, Soninke, characterised by the suffix *-i*. Creissels (2015: 13) also notes that a similar suffix can be found in the closely related Bobo and Bozo languages and that *í* is “attested in several West Mande languages as a reflexive pronoun”. Based on these observations, Creissels (2015: 13) goes on to reconstruct a reflexive suffix **-i* for Proto-West-Mande, yet admits that there is “a serious problem with this hypothesis”: a grammaticalisation of *í* as a suffix would seem to entail an original svo(x) word order, but “all Mande languages invariably show a rigid sov(x) constituent order, which consequently must be reconstructed at Proto-Mande level”. While the Western Mande genus remains a potential candidate for antipassive-reflexive syncretism of reflexive origin, Creissels prefers to leave the question open and the same goes for this book.

The origin of antipassive-reflexive syncretism is also uncertain for the Tacanan and Northern Chukotko-Kamchatkan languages. Vuillermet (2012: 525) explicitly discusses the origin of the syncretism among Tacanan languages, remarking that the antipassive-reflexive-reciprocal-anticausative circumfix *xa-...-ki* in Ese Ejja and the antipassive-reflexive-reciprocal circumfix *k(a)-...-ti* in Cavineña perhaps come “from a primary reflexive function” (cf. the reflexive-reciprocal suffix *-ti* in the closely related language Araona, Emkow 2006: 555ff.). However, more comparative research is needed to clarify and determine the more precise chronology.

The antipassive-reflexive syncretism in the Northern Chukotko-Kamchatkan language Chukchi is characterised by the suffix *-tku/-tko* conditioned by vowel harmony, and Janic (2010: 167) admits that the suffix is “not related to reflexivity but to reciprocity”. Interestingly, Fortescue (2005: 423) proposes that the suffix in question descends from Proto-Chukotko-Kamchatkan **-tku* denoting “frequent or protracted action” (cf. frequentative Alutor *-tku*, Koryak *-tku*, and Kerek *-ttu*). Thus, there is little evidence for a reflexive origin. By contrast, it is well-known that antipassivity is commonly related to reciprocity (§5.2.2) and aspect (Polinsky 2017).

Cariban languages seem to be better candidates for antipassive-reflexive syncretism of reflexive origin. Meira (2000: 217ff.) states that a “detransitivizing prefix” is “found in every Cariban language” and can have a wide range of uses, including passive, antipassive, reflexive, reciprocal, and anticausative functions. The prefix mentioned by Meira has subsequently been reconstructed for Proto-Carib as two distinct prefixes, **(w)e-* and **(w)ôte-*, which Meira et al. (2010: 512) and Gildea (2015: 9) regard as reflexive and reciprocal, respectively. While seemingly homogeneous in Proto-Carib, at least 25 reflexes of the prefixes are attested among descendant languages many of which feature four or more different variants (Meira et al. 2010: 506). Consider, for instance, Tiriyo *ə-*, *əəs-*, *e-*, *əl-*, *ət-*, *et-*; Wayna *ət-*, *əh-*, *ə-*, *e-*; Kari’ña *(w)ot-*, *os-*, *o(?)*-, *e-*; and Apalaí *ot-*, *os-*, *at-*, *o-*, *e-* (Meira 2000: 217f.). While such variant forms are “mostly phonologically conditioned”, they sometimes involve suppletion (Gildea et al. 2016: 2) or “appear to be lexically conditioned” (Meira 2000: 217). Despite the “complicated and idiosyncratic allomorphic patterns” (Meira 2000: 217), the variant forms are commonly treated as a single prefix synchronically which can make it difficult to determine the precise patterns of voice syncretism in the individual languages. Nevertheless, some prefixes do indeed have both antipassive and reflexive functions, including the prefix *e-* derived from Proto-Carib **(w)e-* (Meira et al. 2010: 511), which points to a reflexive origin of the syncretism. This presumed development is illustrated in Table 7.9 (Meira 2000). It is worth observing, however, that the antipassive function of the prefix *e-* seems to be rather widespread among the Cariban languages, and the diachronic development of the various functions of the Proto-Carib prefixes **(w)e-* and **(w)ôte-* remains understudied.

Recently, Sansò (2017) has argued for antipassive-reflexive syncretism of reflexive or reciprocal origin in 20 languages representing sixteen different genera. Sansò also mentions three additional languages, Gumuz and the Bantu language Eton (both AF) as well as the Oceanic language Chamorro (PN). However, it is unclear if Gumuz features productive affixal antipassive voice marking (only a

Table 7.9: ANTP-REFL syncretism of REFL origin in Cariban languages

| Proto-Carib | *(w)e- | REFL | → | ANTP |
|-------------|--------|-------------------------|----------|--------------------|
| Kari’ña | e- | e-kuupi ‘to bathe self’ | e-sapima | ‘to play [sth.]’ |
| Tiriyó | e- | e-suka ‘to wash self’ | e-puuka | ‘to bewitch [sb.]’ |
| Makushi | e- | e-roma ‘to wash self’ | e-name | ‘to fear [sth.]’ |

single example is provided by [Ahland 2012](#): 194f. in her grammar of the language), and the latter two languages do not feature affixal verbal antipassive-reflexive syncretism. Among the other 20 genera, five have already been mentioned above: Slavic, Northern Pama-Nyungan, Central Pama-Nyungan, Kartvelian, and Tacanan. [Sansò \(2017: 193ff., 203\)](#) explicitly describes the syncretism in five of the remaining eleven genera, while he lists the last six genera in a table without further comments. In any case, there is only relatively clear evidence for a reflexive origin in one of the five genera explicitly discussed by [Sansò](#), Turkic. [Sansò](#) explicitly mentions antipassive-reflexive syncretism characterised by the suffix *-š* in Tatar of reciprocal origin (§5.2.2) and by the suffix *-n* in Tuvan of reflexive origin. As already briefly mentioned in §5.2.1, the suffix *-n* is probably diachronically “connected to the possessive form *an* of the [third person] pronoun *ol*” ([Salo 2013](#): 225) and plausibly grammaticalised into a reflexive suffix which developed an antipassive function. This development is illustrated in Table 7.10 (Tuvan = [Kuular 2007](#): 1173; Tatar = [Burbiel 2018](#): 484f.). The other four genera explicitly addressed by [Sansò \(2017\)](#) are discussed below.

Table 7.10: ANTP-REFL syncretism of REFL origin in Turkic languages

| Common Turkic | *-n | REFL | → | ANTP |
|---------------|-----|---------------------------|----------|-----------------|
| Tuvan | -n | savaŋna-n- ‘to soap self’ | daara-n- | ‘to sew [sth.]’ |
| Tatar | -n | sört-en- ‘to dry self’ | teg-en | ‘to sew [sth.]’ |

In contrast to the Turkic case, [Loughnane \(2009: 100\)](#) tentatively speculates that the antipassive-reflexive-anticausative prefix *t-* in the language isolate Ok-sapmin (PN) may historically be related to reciprocity, not reflexivity, as already briefly mentioned in §7.1.2. In turn, [Bryant \(1999\)](#) does not seem to address the origin of antipassive-reflexive syncretism at all in his grammar of the Surmic language Tirmaga (AF). Furthermore, the so-called *d*-classifier characterising anti-

passive-reflexive syncretism in the Na-Dene language Tlingit (NA) described by Sansò (2017: 193f.) seems to have neither a reflexive nor reciprocal origin, and the same is true for the related language Eyak also included in Sansò's study. Thompson (1996: 374f.) argues that both the antipassive and reflexive functions of the classifier have evolved independently from a generalised function denoting a "suppressed patient". Finally, the purported reflexive origin mentioned by Sansò (2017) for the antipassive-reflexive suffix *-m* in the Central Salish language Chilliwack Halkomelem (NA) seems to be supported by Zahir (2018: 75ff.). Nevertheless, observe that the suffix has an antipassive function in all the Salishan languages surveyed by Zahir, while its reflexive function is "not prototypical" (Zahir 2018: 77). The more precise chronology of the functions is uncertain. It is clear from Zahir's discussions of the suffix *-m* that he presupposes a reflexive origin and diachronic development similar to that famously described by Kemmer (1993) for Indo-European languages (§7.1).

The remaining six languages and accompanying genera included but not explicitly discussed in Sansò's (2017) study are the Oceanic language Neverver (PN), the Nilotic language Luwo (AF), the Mangarrayi-Maran language Mangarrayi (AU), the Oto-Manguean language San Ildefonso Tultepec Otomí, the Southern Iroquoian language Cherokee, and the Northern Iroquoian language Seneca (all three NA). As in the case of Tirmaga mentioned further above, Barbour (2012) does not address the diachrony of antipassive-reflexive syncretism in Neverver, and neither does Storch (2014) with regard to Luwo. By contrast, Palancar (2009: 157ff.) explicitly argues against a reflexive origin for the prefix *n-* associated with antipassive, reflexive and other voices in San Ildefonso Tultepec Otomí (compare the cognate prefix in Acapulco Otomí illustrated in §5.2.2). By contrast, there is some vague evidence indicating that the suffix *-(ñ)jiy(i)* in the Mangarrayi-Maran language Mangarrayi (AU) with reflexive, reciprocal and marginal antipassive functions perhaps is historically composed of a reciprocal suffix **-nci* and a reflexive suffix **-yi* (§7.2.1). Julian (2010) reconstructs a reflexive prefix **ata:t-* for Proto-Iroquoian which points to a reflexive origin for antipassive-reflexive syncretism characterised by cognates of the prefix in Cherokee and Seneca. This presumed development is illustrated for the former language in Table 7.11 (Montgomery-Anderson 2008: 343ff., 366, 371), but observe that the development is somewhat tentative. Julian (2010) does not once consider antipassivity nor similar functions of the prefix in descendant languages, and it is therefore not entirely clear if this function has been overlooked in the reconstruction of the Proto-Iroquoian prefix or not.

Table 7.11: ANTP-REFL syncretism of REFL origin in Cherokee

| P.-Ir. * <i>ata:t-</i> | REFL | → | ANTP |
|------------------------|--|----------------------|-----------------------|
| Cher. <i>ataa(t)-</i> | <i>ataa-kohwthiha-</i> ‘to see self’ | <i>ataa-stehrt-</i> | ‘to help [sb.]’ |
| | <i>ataat-olihka-</i> ‘to recognise self’ | <i>ataat-olihka-</i> | ‘to recognise [sth.]’ |

In terms of functional explanations for antipassive-reflexive syncretism of reflexive origin, [Terrill \(1997: 79\)](#) argues that “[i]t seems possible that the antipassive constructions developed from reflexive constructions, by extending the pragmatic function of reflexives” because “reflexives and antipassives have very similar semantic/pragmatic functions”. Consequently, “it is a short functional step from a canonical reflexive function to a canonical antipassive function” ([Terrill 1997: 79](#)). According to [Terrill \(1997: 80ff.\)](#), both reflexives and antipassives are more specifically characterised by i) low agency, ii) low transitivity, and iii) ‘non-distinct’ objects. This explanation is largely adopted by [Janic \(2010; 2016\)](#), while [Sansò \(2017: 206\)](#) argues against it on the grounds that functional similarity “is an elusive concept if we are not able to figure out a hypothetical context in which there may be ambiguity between the source and the target constructions”. In the spirit of [Creissels & Nouguiet-Voisin \(2008\)](#) and [Bostoen et al. \(2015\)](#), [Sansò \(2018: 12\)](#) instead hypothesises that “the reinterpretation path leading to the extension of reflexive/reciprocal/middle markers to antipassive situations starts from a very specific bridgehead, namely, reciprocally marked comitative/sociative constructions”. This scenario is visualised in [Figure 7.3](#). A development from reflexive to antipassive would thus entail a development from reflexive to reciprocal (§7.1.1) and from reciprocal to antipassive (§7.2.4).

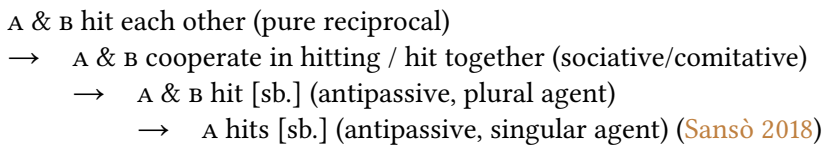


Figure 7.3: Antipassive-reflexive syncretism of reflexive origin

[Sansò’s \(2017, 2018\)](#) scenario represents a plausible explanation for the rise of antipassive-reflexive syncretism in languages in which the antipassive-reflexive marking also has a reciprocal function. However, it does not explain the development of the syncretism in languages in which the antipassive-reflexive marking does not have a reciprocal function like in Nunggubuyu and Tatar. Unless the

reciprocal function has simply fallen out of use, a more general explanation like the one proposed by [Terrill \(1997\)](#) and [Janic \(2010; 2016\)](#) might be a better alternative for such languages, if a hypothetical context or scenario in which the development might have taken place can be found. [Terrill \(1997: 83\)](#) mentions in passing that the verb ‘to cover’ in Yidiny (AU) can be found in both the antipassive and reflexive voices with the same voice marking. If one focuses on the non-distinctiveness characterising reflexives and antipassives mentioned further above, it could be hypothesised that a reflexive meaning of a verb like ‘to cover’ could come to be used first in relation to a distinct part of the body and later more vaguely with regard to some non-distinct part of the body whence an antipassive function could evolve, e.g. ‘to cover (all of) oneself’ → ‘to cover distinct part of one’s own body’ → ‘to cover non-distinct part of one’s own body’ → ‘to cover [something non-distinct]’.

7.2 Reciprocal origin

As demonstrated in the previous sections, voice syncretism of reflexive origin is well-known and rather well-attested among the languages of the world. In comparison, the prospect of a reciprocal origin for both individual voices and voice syncretism has received relatively little attention in the literature, although the possibility of such development has been acknowledged sporadically for decades (e.g. [Kemmer 1993: 200](#)). Nevertheless, growing evidence indicates that a reciprocal origin (or at least a partially reciprocal origin) may be more widespread than previously thought. Plausible cases of such development are discussed and illustrated in the following sections. It is important to stress here that it can be difficult to discern a purely reciprocal origin for voice syncretism in many languages, for which reason a partially reciprocal origin is mentioned in parentheses above. Indeed, in many of the languages treated in the following sections the purported original reciprocal function of a given voice marker likely existed alongside various more or less semantically similar functions related to sociativity (‘to VERB together’), iterativity (‘to VERB iteratively’), intensity (‘to VERB intensely’), and/or habituality (‘to VERB habitually’). In the spirit of [Lichtenberk \(1985; 2000\)](#), these functions are subsumed under the notion PLURALITY OF RELATIONS (POR). This notion can further be divided into PLURALITY OF PARTICIPANTS underlying functions in which semantic participants act plurally in one way or another (e.g. sociativity), and PLURALITY OF ACTIONS underlying functions in which an action is done plurally (e.g. iterativity). The notion plurality of participants and thereby plurality of relations also underlie reciprocity. Thus, the patterns of voice syn-

cretism mentioned in the next sections do not necessarily all have an exclusively reciprocal origin in all languages, but the voice marking in these patterns has a documented or reconstructible reciprocal function which likely evolved before additional voice functions of interest. For the sake of convenience, the voice syncretism will accordingly be described as having a reciprocal origin.

7.2.1 From reciprocal to reflexive

As noted in §7.1, it is widely believed that reflexive marking can develop a reciprocal function and that reciprocal marking cannot develop a reflexive function. As argued very explicitly by Heine & Miyashita (2008: 216), “reciprocals do not seem to grammaticalize into reflexives”. A diachronic development from reflexive to reciprocal is indeed well-attested cross-linguistically (§7.1.1), yet the opposite development does seem to have taken place in a number of geographically diverse languages and genera. For instance, reflexes of the Proto-Oceanic prefix **pari-* (Pawley 1973: 150ff.) in descendant languages (PN) have a wide range of functions related to the notion of plurality of relations discussed in the previous section, including reciprocity (Lichtenberk 2000). For an overview of the various functions, see Bril (2005: 28). In contrast, a reflexive function is rare among the reflexes, and Lichtenberk (2000: 32) argues that “there are no grounds for postulating a reflexive-marking function” for the prefix **pari-* in the proto-language (see also 1991: 181). This opinion is shared by Bril (2005: 32) and Moyse-Faurie (2008: 106; 2013a: 108). Interestingly, however, a reflexive function has evolved as an innovation in a few descendant languages, most notably in “[l]anguages spoken in the Hienghene area (Nemi, Fwâi, Pije, Jawe) of the New Caledonian Mainland, as well as Cèmuhi and at least some of the Voh-Koné dialects (Centre of the Mainland, such as Hmwaveke)” (Moyse-Faurie 2013a: 122). For example, in the Hmwaveke language mentioned by Moyse-Faurie the prefix *ve-* derived from Proto-Oceanic **pari-* has an unambiguous reflexive function in the singular, while both reflexive and reciprocal interpretations are possible in the dual and plural.

Moyse-Faurie (2013a: 110) argues that the phenomenon described above is otherwise “very rare in Oceanic languages”, though it can here be added that the Loyalty Islands language Drehu and the Polynesian language East Futunan appear to have undergone a similar development, albeit on a much smaller scale. In Drehu the prefix *i-* has reciprocal and other functions related to plurality of relations as well as an antipassive function (Bril 2005: 35ff. §7.2.2) in addition to a reflexive use “with a few verbs of grooming” (Bril 2005: 34. In East Futunan the prefix *fe-* has functions related to plurality of relations and can also “mark a re-

ciprocal involving no more than two participants” with “a dozen of verbs”, while a reflexive function is “limited to a few verbs designating actions performed on one’s own body” (Moyse-Faurie 2007: 1520ff.). The prefixes in these languages also represent reflexes of Proto-Oceanic **pari-*. The presumed diachronic development is shown in Table 7.12 (Hmwaveke = Moyse-Faurie 2008: 123; Drehu = Bril 2005: 35, 38; East Futunan = Moyse-Faurie 2007: 1520ff.). As explicitly indicated in the table, the reflexive function of prefixes did not necessarily evolve directly nor exclusively from a reciprocal function because the prefix likely had other functions related to plurality of relations as well. However, the evidence presented here clearly shows that the reciprocal function developed prior to the reflexive function.

Table 7.12: REFL-RECP syncretism of RECP origin in Oceanic languages

| Proto-Oceanic | <i>*pari-</i> | RECP (+ POR) | → | REFL |
|---------------|---------------|--------------------------------|----------------|-----------------|
| Hmwaveke | <i>ve-</i> | <i>ve-caina</i> ‘to know e.o.’ | <i>ve-ibi</i> | ‘to pinch self’ |
| Drehu | <i>i-</i> | <i>i-atre</i> ‘to know e.o.’ | <i>i-sej</i> | ‘to comb self’ |
| East Futunan | <i>fe-</i> | <i>fe-tuli</i> ‘to chase e.o.’ | <i>fe-’umo</i> | ‘to pinch self’ |

There are vague hints of similar reflexive-reciprocal syncretism in some languages of South New Caledonia. For instance, Bril (2005: 39) argues that in Ajië “the middle prefix *vi-* has reciprocal, reflexive, or collective meanings” but only provides one example of the reflexive use (*na vi-jiwé* ‘he kills himself’) and it has not been possible to obtain additional data on the language. Moyse-Faurie (2015: 1047) notes that in Xârâcùù the prefix *-ù* “only derives a dozen verbs”, two of which appear to qualify as reflexive (*cù* ‘to comb sth.’ ↔ *ù-cù* ‘to comb self’ and *mwé* ‘to put sth. into water’ ↔ *ù-mwé* ‘to take a bath’, i.e. ‘to put self into water’) whereas two other verbs may be regarded as reciprocal with a little good will (*xâpârî* ‘to see sb.’ ↔ *ù-xâpârî* ‘to meet’ and *juu* ‘to agree to sth.’ ↔ *ù-juu* ‘to come to an agreement’, i.e. ‘to agree to e.o.’). Both Ajië *vi-* and Xârâcùù *ù-* are derived from Proto-Oceanic **pari-* as well.

An affix associated with reciprocity has also been reconstructed for Proto-Arawakan. According to Wise (1990: 109f.), the suffix **-k^hak^h* in this proto-language likely had a reciprocal function because “that is its meaning in a wide range of [descendant Arawakan] languages” while “[i]n others the meaning is ‘comitative’ which is clearly semantically related to ‘reciprocal’”. Wise’s description suggests that the functions of the Proto-Arawakan suffix **-k^hak^h* perhaps relate to plurality of relations more generally, like in the case of the Proto-Oceanic prefix **pari-*

discussed above. In the Inland Northern Arawakan language Tariana the reflex *-kaka* has retained its reciprocal use, but the comitative function mentioned by Wise has become almost obsolete and is retained only in “older people’s speech” (Aikhenvald 2003: 264). In addition to its reciprocal function, the suffix in questions appears to have developed a marginal reflexive function found with three verbs: *pisu* ‘to cut sb.’, *inu* ‘to kill sb.’, and *ña* ‘to hit sb.’ (Aikhenvald 2003: 266f. 2007: 1357). The presumed development of the reflexive function from the reciprocal function is illustrated in Table 7.13. In her discussion of the Tariana suffix *-kaka*, Aikhenvald (2007: 1357) states that “[a]ll North-Arawak languages of the Upper Rio Negro use the same verbal suffix for reciprocals and reflexives”. However, here Aikhenvald (2007: 847) does not refer to the same verbal suffix as in Tariana (nor cognate suffixes) but to the fact that each of the languages of the Upper Rio Negro possesses a suffix which is used in both the reflexive and reciprocal voices: *-na* in Warekena, *-tini* in Bare, and *-wa* in Baniwa. Wise (1990: 104) observes that the Yucuna suffix *-čaka* seemingly reflecting Proto-Arawakan **-k^hak^h* has both reflexive and reciprocal functions, but it has not been possible to confirm this claim due to lack of data on the language.

Table 7.13: REFL-RECP syncretism of RECP origin in Tariana

| Proto-Arawakan | <i>*-k^hak^h</i> | | RECP (+ POR?) | → | REFL |
|----------------|--------------------------------------|-----------------|----------------|---|----------------|
| Tariana | <i>-kaka</i> | <i>inu-kaka</i> | ‘to kill e.o.’ | | ‘to kill self’ |

Jensen (1998: 535) reconstructs both a reflexive prefix **je-* and a reciprocal prefix **jo-* for another South American genus, Tupi-Guaraní. Jensen does not mention any additional functions of the latter prefix, but it is not unlikely that it may have had functions related to plurality of relations in light of the discussions above. In any case, Jensen (1998: 535) argues that the Proto-Tupi-Guaraní prefix **jo-* is reflected by the prefix *ju-* in the descendant language Urubú-Ka’apor, whereas Proto-Tupi-Guaraní **je-* was lost in the language. The prefix *ju-* serves as voice marking in both the reflexive and reciprocal voices, in the latter accompanied by reduplication (Kakumasu 1986: 339f.). It seems that once the reflexive prefix **je-* was lost in (an earlier stage of) the language, the reflexive function was acquired by the reciprocal prefix **jo-* (later *ju-*) to the extent that additional marking (i.e. reduplication) eventually became necessary to express the original reciprocal meaning. Thus, it is worth noting that the synchronic reflexive-reciprocal syncretism in Urubú-Ka’apor qualifies as type 2 syncretism, unlike the synchronic reflexive-reciprocal syncretism of type 1 described for Hmwaveke,

Drehu, East Futunan, and Tariana above. The development of the syncretism in Urubú-Ka'apor is illustrated in Table 7.14 (Kakumasu 1986: 340). Reflexive-reciprocal syncretism of type 1b can be found in the related Tupi-Guaraní language Wayampi (e.g. *o-j-awyky* ‘they do each other’s hair’ or ‘they do their own respective hair’, Copin 2012: 334). However, in this language neither Proto-Tupi-Guaraní **je-* nor **jo-* has been lost, and the prefix *j-* is simply an allomorph of both the synchronic prefixes *je-* and *jo-* which have been retained in Wayampi alongside their original reflexive and reciprocal functions. Note that Copin’s account of the reflexive and reciprocal voice marking in Wayampi contrasts with that of Jensen (1998) who argues that only Proto-Tupi-Guaraní **je-* has been retained in the language (in the form *ji-*) while **jo-* has been lost. The authors probably describe different varieties of the language.

Table 7.14: REFL-RECP syncretism of RECP origin in Urubú-Ka'apor

| Proto-Tupi-Guaraní <i>jo-</i> RECP | → REFL |
|--|--------------------------------|
| Urubú-Ka'apor <i>ju- ju-tuka~tuka</i> ‘to bump e.o.’ | <i>ju-pukwar</i> ‘to tie self’ |

Alpher et al. (2003: 341) argue for a distinction between reflexive **-yi* and reciprocal **-nci* in Proto-Gunwinyguan based on observations from languages of the Gunwinyguan language family (AU) and beyond the family, including Worrوران, Tangkic, Nyulnyulan, and Mangarrayi-Marran languages. Some of these observations are summarised in Table 7.15 (for information on the diachronic sound changes leading to the synchronic reciprocal suffixes, see Alpher et al. 2003: 343). In Tangkic languages, in three Gunwinyguan languages (Waray, Ngandi, and Nunggubuyu), and in the Mangarrayi-Maran language Warndarang the reflexive and reciprocal suffixes are distinct, while the remaining languages feature reflexive-reciprocal syncretism. As discussed further below, it seems that the reciprocal voice marking in several Gunwinyguan languages has developed a reflexive function, and the same might even be true for Nyulnyulan languages and the Mangarrayi-Maran language Alawa. By contrast, the reflexive voice marking in Worrوران languages may have developed a reciprocal function, while it seems that a reflexive suffix and a reciprocal suffix have merged to form the suffix *-(ñ)jiyi* in Mangarrayi. The suffix *-yi* in this language is retained with “[o]nly five verbs” (Merlan 1989: 154).

Table 7.15: REFL-RECP syncretism in Australia

| | | REFL | | RECP |
|------------------|----------------|--------------|-----|--------------------|
| Worrorran | Ungarinyin | -yi | ? → | -yi |
| | Worrorra | -ye | ? → | -ye |
| Tangkic | Kayardild | -yi | | -nycu |
| | Lardil | -yi | | -nyci |
| Gunwinyguan | Waray | -yi | | -tji |
| | Ngandi | -i | | -yɟi |
| | Nunggubuyu | -i | | -n ^y ji |
| | Rembarrnga | -tti | ← | -tti |
| | Jawoyn | -ci | ← | -ci |
| | Ngalakan | -či | ← | -či |
| | Bininj Gun-Wok | -rri | ← | -rri |
| | Dalabon | -rri | ← | -rri |
| Nyulnyulan | Warrwa | -nyci | ← ? | -nyci |
| | Bardi | -inyci | ← ? | -inyci |
| | Nyigina | -nyci | ← ? | -nyci |
| | Yawurru | -nyci | ← ? | -nyci |
| Mangarrayi-Maran | Warndarang | -i | | -yi, (-ji) |
| | Alawa | -nyci | ← ? | -nyci |
| | Mangarrayi | -yi/-(ñ)jiyi | | -yi/-(ñ)jiyi |

The data from the Gunwinyguan languages (and the observations from the Tangkic languages) in Table 7.15 evidently suggest that “the original reciprocal suffix has extended its range to replace the original reflexive” in Rembarrnga, Jawoyn, Ngalakan, Bininj Gun-Wok, and Dalabon (Alpher et al. 2003: 343). Further evidence for this claim can be found in Nunggubuyu. Although this language retains separate marking for the reflexive and reciprocal voices, “occasionally a morphological Recip[rocal] is used in reflexive sense” (e.g. *wan^{si}-n^yji* ‘to bite self’ or ‘to bite e.o.’ and *ri-n^yji* ‘to spear self’ or ‘to spear e.o.’, Heath 1984: 392). The development of reflexive-reciprocal syncretism in Nunggubuyu and a few other Gunwinyguan languages is illustrated in Table 7.16 (Nunggubuyu = Heath 1984: 392; Rembarrnga = McKay 1975: 278, 282; Ngalakan = Merlan 1983: 193, 215; Bininj Gun-Wok = Evans 2003: 444; Dalabon = Evans 2017). It has not been possible

to obtain any examples for Jawoyn. Observe that the suffixes in the table differ slightly in their cited and realised forms due to various morphophonological and morphological conditions (for an overview of these differences, see [Alpher et al. 2003: 342](#)). As indicated by the question marks in Table 7.15, the diachrony of reflexive-reciprocal syncretism in the Worrorran, Nyulnyulan, and Mangarrayi-Maran languages is more uncertain. Only if it is assumed that the suffixes **-yi* and **-nci* reconstructed for Proto-Gunwinyguan can be traced further back to a Northern Australian ancestral language (or represent an ancient areal feature), the reflexive-reciprocal syncretism in Worrorran languages can be considered to be of reflexive origin, and the reflexive-reciprocal syncretism in Nyulnyulan languages and Alawa of reciprocal origin.

Table 7.16: REFL-RECP syncretism of RECP origin in Gunwinyguan

| P.-Gunwinyg. | <i>*-nci</i> | RECP | | → | REFL |
|--------------|-------------------------|---------------------------|-------------------|---------------------------|-------------------|
| Nunggubuyu | <i>-n^yji</i> | <i>ri-n^yji</i> | ‘to spear sth.’ | <i>ri-n^yji</i> | ‘to spear self’ |
| Rembarrnga | <i>-tti</i> | <i>rokna-ttə-</i> | ‘to meet e.o.’ | <i>teṭmə-ttə-</i> | ‘to cut self’ |
| Ngalakan | <i>-či</i> | <i>woymi-či-</i> | ‘to kill e.o.’ | <i>dačmi-či-</i> | ‘to cut self’ |
| B. Gun-Wok | <i>-rri</i> | <i>djobge-rre-</i> | ‘to cut e.o.’ | <i>djobge-rre-</i> | ‘to cut self’ |
| Dalabon | <i>-rri</i> | <i>na-rrû-</i> | ‘to look at e.o.’ | <i>na-rrû-</i> | ‘to look at self’ |

Finally, reflexive-reciprocal syncretism of reciprocal origin has been attested in at least one Turkic language, Tuvan (EA). In this language the suffix *-š* serves as productive voice marking in the reciprocal voice, but can also have a reflexive function with verbs with the very specific meaning ‘to make sth. dirty’ or ‘to smear sth.’ even though there is another “specialized and highly productive marker of reflexivity” in the language, *-n* ([Kuular 2007: 1213](#)). [Kuular](#) lists five such verbs, each with the meaning ‘to make sth. dirty’ or ‘to smear sth.’ without the suffix *-š* (*bəlča-*, *bəlčakta-*, *bəlga-*, *bora-*, *öge-*) and with the meaning ‘to make self dirty’ or ‘to smear self’ with the suffix (*bəlča-š-*, *bəlčakta-š-*, *bəlga-š-*, *bora-š-*, *öge-š-*). According to [Nedjalkov & Nedjalkov \(2007: 1154f.\)](#), “[t]here is no generally accepted etymology of the reciprocal suffix” but it is known that “[r]eciprocity was marked by the suffix *-š* as early as in Common Turkic (approximately in the last centuries BCE)”. As argued by [Gandon \(2018\)](#), other common uses of the reflexes of Common Turkic **-š* in descendant languages can be subsumed under the notion of plurality of relations. In any case, the reflexive use of the suffix is a much more recent innovation in Tuvan, and the development is illustrated in Table 7.17 ([Kuular 2007: 1177, 1213](#)). [Salo \(2013: 243\)](#) argues that a

similar development has taken place in “Bashkir dialects in particular” and that “[t]his has been attested in some eastern and southern dialects”. Unfortunately, *Salo* provides no examples, and it has not been possible to obtain data on these Bashkir varieties to confirm the claim.

Table 7.17: REFL-RECP syncretism of RECP origin in Tuvan

| Common Turkic | *-š | RECP (+ POR) | → | REFL |
|---------------|-----|--|---|-----------------------------|
| Tuvan | -š | sög ^{le} -š- ‘to offend e.o.’ | | öge-š- ‘to make self dirty’ |

Although the development from reciprocal to reflexive has been explicitly noted in the literature, albeit sporadically (and mostly in relation to the Oceanic languages; e.g. *Moyse-Faurie* 2008; 2013a), a possible explanation for the phenomenon has seldom been considered. In a rare explicit discussion of the diachrony, *Lichtenberk* (2000: 46f.) briefly considers reflexive-reciprocal syncretism of reciprocal origin in East Futunan (see Table 7.12 on page 193) and notes that the reflexive function of the prefix *fe-* only is found with “body action” verbs, for which reason “these verbs must be distinguished from reflexives proper”. Following *Kemmer* (1993), *Lichtenberk* (2000: 47) instead considers “such verbal constructions to be middle rather than reflexive”. In turn, *Lichtenberk* (2000: 48) argues that “middles are particularly close to reciprocals among the plurality-of-relations meanings” in terms of “Initiator-Endpoint unity” meaning that all participants are both initiator and endpoint (cf. *Kemmer* 1993: 207ff.). Thus, *Lichtenberk* (2000) essentially proposes a reverse development from the reciprocal stage to the grooming/motion stage in *Haspelmath*’s (2003) semantic map of voice development presented in Figure 7.1 on page 174, but argues that the East Futunan prefix *fe-* has not developed a reflexive function that goes beyond body actions. However, it is clear from several of the examples in this section that the reflexive stage has been reached in other languages and a more general explanation is therefore needed.

As demonstrated here and in §7.1.1, the reflexive and reciprocal voices are functionally similar enough to converge in terms of voice marking in languages worldwide. Considering the close ties between the two voices, there is really no reason to assume that a voice development from reciprocal to reflexive cannot be explained in the same terms as voice development from reflexive to reciprocal discussed in §7.1.1, only in a reverse manner. Thus, it seems that the development of reflexive-reciprocal syncretism can potentially follow a reverse version of the developmental path from reflexive to reciprocal formulated by *Heine & Miyashita*

(2008) in Figure 7.2 on 179, e.g. ‘they wash each other’ → ‘they wash themselves’ → ‘s/he washes self’.

7.2.2 From reciprocal to anticausative

Reciprocal-anticausative syncretism of reciprocal origin has received minimal attention in the literature, and evidence for the phenomenon is accordingly scarce, though not entirely absent. For instance, reflexes of the Proto-Bantu suffix **-an* are known to be “notoriously polysemic” in descendant Bantu languages (Bostoen et al. 2015: 732) and it is generally believed that the suffix originally pertained to reciprocity and other functions of plurality of relations, notably sociativity (Schadeberg 2003: 76; Dom et al. 2016: 137ff.). As discussed at length by Maslova (2000), the proto-suffix seems to be related to the preposition *na* ‘with’ in many Bantu languages which would suggest that the proto-suffix **-an* likely had a sociative function when it first arose (cf. Kirundi *-tamb-an-* ‘to dance together’, Ndayiragije 2006: 273, 277) from which the reciprocal function subsequently evolved (cf. Kirundi *-kúbit-an-* ‘to hit e.o.’). In any case, Maslova (2007: 345) observes that reflexes of the suffix **-an* can even be used as “non-reciprocal de-transitivizer[s], although this phenomenon is very rare and highly lexically constrained”. Likewise, Dom et al. (2016: 139) briefly mention that the reflexes in question can indicate “spontaneous events” in some descendant languages. Such development from reciprocal (and plurality of relations in general) to anticausative can, for instance, be seen in Babungo (Schaub 1985: 209f.) and Orungu (Ambourou 2007: 191), as illustrated in Table 7.18. The reflexes of the Proto-Oceanic prefix **pari-* described in the previous section are known to have a “spontaneous” use in some Oceanic languages as well (Lichtenberk 2000: 48; Bril 2005: 32, 51; Moyse-Faurie 2008: 109; 2013a: 109). However, unlike the “spontaneous events” noted by Dom et al. (2016) among Bantu languages, the “spontaneous” uses in the Oceanic languages are generally to be understood in the literal sense ‘to happen spontaneously’. It has not been possible to find a proper anticausative function for any reflex of **pari-* among Oceanic languages.

Table 7.18: RECP-ANTC syncretism of RECP origin in Bantu languages

| Proto-Bantu | *-an | RECP (+ POR) | → | ANTC | |
|-------------|------|--------------|-------------------|---------|----------------|
| Babungo | -ne | yé-né | ‘to see e.o.’ | ngà’-nè | ‘to open’ |
| Orungu | -àn | βôn-àn- | ‘to look at e.o.’ | βùr-àn- | ‘to fold/bend’ |

Additionally, observe that the Common Turkic suffix **-š* with functions related to reciprocity and plurality of relations discussed in the previous section has possibly developed an anticausative function in some descendant languages, including Tuvan. While the reflexive use of the suffix *-š* in this language is very restricted in this language (see Table 7.17 on page 198), its anticausative use is more productive, although not as productive as its reciprocal use (Kuular 2007: 1176ff., 1221f.). An anticausative use of the suffix is also attested in a handful of other related languages, but in these languages the use is considerably more marginal. For instance, Nedjalkov (2007d: 295) and Nedjalkov & Nedjalkov (2007: 1142) observe a “non-productive” anticausative use of the suffix *-s* in Yakut, and Gandon (2013: 16f.; 2018) notes that the suffix *-ş* in Turkish has an anticausative function with twelve verbs. Gandon (2013: 57ff.) also provides a list of other Turkic languages in which hints of an anticausative use of the suffix can be found, including Khakas, Uzbek, Tatar, and Karachay-Balkar. Gandon (2013: 58) even provides two examples of what seems to be an anticausative use of the suffix *-ş* in 11th–13th century Old Turkic, *kar-* ‘to mix sth.’ ↔ *kar-ış-* ‘to mix’, *kat-* ‘to join sth.’ ↔ *kat-ış-* ‘to join (up)’. The presumed diachronic development is illustrated by examples from three of these languages in Table 7.19 (Tuvan = Kuular 2007: 1177, 1222; Yakut = Nedjalkov 2007d: 295; Nedjalkov & Nedjalkov 2007: 1112; Turkish = Gandon 2013: 12, 17). Considering the age of the Old Turkic examples and the wide distribution of the (barely productive) anticausative use among modern Turkic languages in general, it can alternatively be hypothesised that Common Turkic **-š* had a marginal anticausative function, traces of which have simply been retained in some descendant languages. In any case, functions related to reciprocity and plurality of relations would have been considerably more common than an anticausative function in Common Turkic, and Gandon (2018) ultimately favours a diachronic development from reciprocal to anticausative.

Table 7.19: RECP-ANTC syncretism of RECP origin in Turkic languages

| Common Turkic | <i>*-š</i> | RECP (+ POR) | → | ANTC |
|---------------|------------|-------------------------------|---|----------------------------------|
| Tuvan | <i>-š</i> | <i>tanə-š-</i> ‘to know e.o.’ | | <i>mööŋŋe-š-</i> ‘to accumulate’ |
| Yakut | <i>-s</i> | <i>bul-us-</i> ‘to find e.o.’ | | <i>tüm-üs-</i> ‘to gather’ |
| Turkish | <i>-ş</i> | <i>bul-uş-</i> ‘to find e.o.’ | | <i>yığ-ış-</i> ‘to pile up’ |

Finally, in the previous section it was discussed at length that the Proto-Gunwinyguan reciprocal suffix **-nci* appears to have developed a reflexive function in several descendant languages (see Table 7.16 on page 197). In one of these

languages, Ngalakan, the reflex *-či* has even developed a marginal anticausative function. Merlan (1983: 133) explicitly argues that “[o]ften the reflexive-reciprocal is used with a kind of ‘middle’ meaning, and represents a process as taking place only within and affecting the crossreferenced NP, not occurring through outside agency”. Merlan (1983: 133, 203) provides the verb *jurmi-či-* ‘to spill’ as an example (cf. *jurmi-* ‘to pour sth.’, i.e. ‘to make sth. spill’), and additional examples can be located elsewhere in her descriptive grammar of the language: *ler?mi-* ‘to set sth. alight’ ↔ *ler?mi-či-* ‘to come alight’, *jorŋmi-* ‘to stretch sth.’ ↔ *jorŋmi-či-* ‘to stretch’ (Merlan 1983: 7, 87, 202f.). These verbs are here presented with the thematic auxiliary *-mi* “to which tense-aspect and reflexive-reciprocal suffixes are added” in thematic verbs like *jur-*, *ler?-*, and *jorŋ-* (Merlan 1983: 93). Moreover, it should be noted that the suffix *-či* in Ngalakan also has a reflexive function, and the more precise chronological order of this and the anticausative function is uncertain. Thus, as illustrated in Table 7.20, it is possible that the anticausative function has evolved from reflexive-reciprocal syncretism. It has hitherto not been possible to find similar syncretism in other Gunwinyguan languages.

Table 7.20: RECP-ANTC syncretism of RECP origin in Ngalakan

| Proto-Gunwinyguan | *-nci | RECP (+ REFL?) | → | ANTC |
|-------------------|-------|--------------------------|---|-----------------------------|
| Ngalakan | -či | woymi-či- ‘to kill e.o.’ | | ler?mi-či- ‘to come alight’ |

In terms of diachrony, it is plausible that the rise of reciprocal-anticausative syncretism is facilitated by lexically reciprocal verbs which do not necessarily involve conscious mutual action by the involved semantic participants. As observed by Nedjalkov & Nedjalkov (2007), the anticausative function of the suffix *-s* in Yakut is restricted to precisely such verbs (e.g. *tüm-* ‘to gather sth.’ → *tüm-üs-* ‘to gather each other’ → ‘to gather’). As evident by the Bantu and Ngalakan examples presented in this section, the anticausative function appears to be less restricted semantically in these languages, but it may very well have evolved in relation to lexically reciprocal verbs as well. Consider, for instance, the verb *-kuvhang-an-* ‘to gather’ in the Bantu language Venda (Maslova 2007: 341) and the verb *-mala-maŋi-či-* ‘to gather’ in Ngalakan (*mala-* is a collective ‘group’ suffix, i.e. ‘to all gather’, Merlan 1983: 94). As discussed later in §7.3.2, an opposite development from anticausative to reciprocal might have taken place in the extinct Indo-European language Hittite.

7.2.3 From reciprocal to passive

There is currently no good evidence for diachronic development from reciprocal to passive. Heine & Miyashita (2008: 206) briefly consider such diachrony for the prefix *mə-* in the Berber language Tuareg (AF) which has passive and reciprocal functions, but no reflexive function. However, they conclude that “this case provides no convincing evidence for a reciprocal > passive evolution” because a cognate prefix in the related language Tamasheq features a reflexive function. In the language sample of this book the Highland East Cushitic language Sidaama also features a suffix (*-am*) with passive and reciprocal functions (in addition to an anticausative function) but no reflexive function, yet the original function of this suffix appears to have been passive (§7.4.2).

7.2.4 From reciprocal to antipassive

Diachronic development from reciprocal to antipassive has received slightly more attention in the literature than the diachronic scenarios discussed in the previous three sections, and has notably been discussed in relation to Bantu languages (e.g. Bostoen et al. 2015) and Oceanic languages (e.g. Janic 2016). With regard to the former languages, the Proto-Bantu suffix **-an* associated with reciprocity and plurality of relations (§7.2.2) has developed an antipassive function in a number of descendant languages, including Kirundi (Ndayiragije 2006: 272ff.), Swazi, Ndonga (Nedjalkov 2007d: 297f.), and Tswana (Creissels 2018: 755). Bostoen et al. (2015: 731f., 738ff.) argue that the antipassive-reciprocal syncretism in question has largely been overlooked among the Bantu languages in the past, suggesting that it might be even more widespread, and also attest the syncretism in Kinyarwanda, Gikuyu, Kikamba, and Kilega. Bostoen et al. (2015: 742ff.) even mention a few Bantu languages “where an unproductive antipassive marker is likely to exist”. The diachrony of the antipassive-reciprocal syncretism is illustrated by examples from a few of these languages in Table 7.21 (Kirundi = Ndayiragije 2006: 275; Gikuyu = Mugane 1999: 163f. Kikamba = Kioko 2005: 39; Kilega = Botne 2003: 136f.). Bostoen et al. (2015: 741) also provide an interesting account of Kisongye in which the suffix *-an* “is no longer polysemic” but “has become a dedicated antipassive marker”, while reciprocity is “currently expressed through a combination of reflexive prefix *-i* and the suffix *-een-*, which is analyzed as a representation of *-an-* fused with the applicative suffix *-il-*”.

Like the Proto-Bantu suffix **-an*, the Proto-Oceanic prefix **pari-* is also generally associated with functions pertaining to plurality of relations, including reciprocity (§7.2.1). It seems that this prefix has developed an antipassive func-

Table 7.21: ANTP-RECP syncretism of RECP origin in Bantu languages

| Proto-Bantu | *-an | | RECP (+ POR) | → ANTP |
|-------------|------|-------------|-------------------|--------------------|
| Kirundi | -an | -tuk-an- | ‘to insult e.o.’ | ‘to insult [sb.]’ |
| Gikuyu | -an | -ingat-an- | ‘to chase e.o.’ | ‘to chase [sb.]’ |
| Kikamba | -an | -m-an- | ‘to bite e.o.’ | ‘to bite [sb.]’ |
| Kilega | -an | -kugamb-an- | ‘to slander e.o.’ | ‘to slander [sb.]’ |

tion in some descendant languages, though the chronological order in which the antipassive function evolved in relation to the reciprocal function remains somewhat uncertain. Janic (2016: 178) speculates that the prefix probably had a general function in the proto-language “where the assignment of the semantic roles to the participants of the event was motivated by the general knowledge of the world, lexical meaning of a verb and/or by the external factors such as discourse context”, before it later “started to categorize the events characterized by the plurality of relations into more specific types such as reciprocal, antipassive, collective and chaining etc.” This scenario suggests that antipassivity did not necessarily evolve from reciprocity, but concurrently alongside it. However, Janic (2016: 178f.) admits that “[d]ue to the lack of historical data, the proposed hypothesis is highly speculative and by no means categorical and absolute in nature” and “a later development of the antipassive in the Oceanic languages cannot be entirely excluded”. It is, for instance, worth observing that attestations of the antipassive function are rather sporadic among the Oceanic languages, while the reciprocal function is widespread (as also mentioned by Janic 2016: 160). Furthermore, Pawley (1973: 151) argues that the prefix **pari-* is likely to have had a reciprocal function in Proto-Oceanic, albeit “restricted to a subclass of verbs”. Consequently, the possibility of a reciprocal origin for the antipassive-reciprocal syncretism is here kept open, and illustrated in Table 7.22 (To’aba’ita = Lichtenberk 2007: 1552, 1560; Tolai = Mosel 1984: 146f.; Hoava = David 2003: 136f. Drehu, Iaa, Fijian = Bril 2005: 35ff., 47, 57).

Antipassive-reciprocal syncretism among Oceanic languages has notably been discussed repeatedly in relation to the prefix *kwai-* in To’aba’ita by Lichtenberk (1991; 2000; 2007). Additionally, Mosel (1984: 147, 156) explicitly argues that the prefix *var-* in Tolai “does not exclusively mean reciprocity, but is also used to derive non-reciprocal intransitive verbs from transitive verbs”. An antipassive function is also observed by David (2003: 137f.) for the prefix *vari-* in Hoava, by Bril (2005: 37f.) for the prefixes *i-* and *ü-* in Drehu and Iaa (and possibly

in Nengone), and by Janic (2016: 164) for the prefix *vei-* in Standard Fijian. Brill (2005: 33, 39) also mentions a marginal and lexicalised function of the Xârâcùù prefix *ù-* which is reminiscent of antipassivity (e.g. *bě* ‘to move to sth.’ ↔ *ù-bě* ‘to be jittery’ and *xù* ‘to give sb. sth.’ ↔ *ù-xù* ‘to be contagious’). Moyse-Faurie (2015: 1047) contributes additional examples (e.g. *da* ‘to eat sth.’ ↔ *ù-da* ‘to bite [sb.]’ and *sö* ‘to pride oneself on sth.’ ↔ *ù-sö* ‘to be haughty, be a boaster’). The various prefixes mentioned here are all derived from Proto-Oceanic *pari-*, even the To’aba’ita prefix with its somewhat peculiar form. Lichtenberk (2007: 1566f.) argues that “the expected reflex in To’aba’ita is **fai-*” but “[f]or some reason, in the proto-language from which To’aba’ita and a few other very closely related languages are descended the prefix underwent an irregular change of earlier ***f* to ***w*” and “[l]ater on in the history of these languages, ***w* changed to *kw*”.

Table 7.22: ANTP-RECP syncretism of RECP origin in Oceanic languages

| Proto-Oceanic | <i>*pari-</i> | RECP (+ POR) | → | ANTP |
|---------------|---------------|---------------------|------------------|--|
| To’aba’ita | <i>kwai-</i> | <i>kwai-ngalufi</i> | ‘to berate e.o.’ | <i>kwai-labata</i> ‘i’ ‘to harm [sb.]’ |
| Tolai | <i>var-</i> | <i>var-ubu</i> | ‘to hit e.o.’ | <i>var-karat</i> ‘to bite [sth.]’ |
| Hoava | <i>vari-</i> | <i>vari-ome</i> | ‘to see e.o.’ | <i>vari-poni</i> ‘to give [sth.]’ |
| Drehu | <i>i-</i> | <i>i-aja</i> | ‘to desire e.o.’ | <i>i-hej</i> ‘to bite [sth.]’ |
| Iaai | <i>ü-</i> | <i>ü-hlingöö</i> | ‘to kill e.o.’ | <i>ü-hülü</i> ‘to bite [sth.]’ |
| Fijian | <i>vei-</i> | <i>vei-dree</i> | ‘to pull e.o.’ | <i>vei-vuke</i> ‘to bite [sth.]’ |

The uncertainty of the diachronic development of antipassive-reciprocal syncretism described for the Oceanic languages also extends to certain Turkic languages. The suffix **-š* in Common Turkic is generally believed to have had functions related to reciprocity and plurality of relations (see §7.2.1 and §7.2.2), and in at least two descendant languages the suffix in question has developed an antipassive function. In Tatar the antipassive function of the reflex *-š* is rather productive and has already been exemplified in §4.2.2 (see Table 4.5 on page 89), while the antipassive function of the reflex *-s* in Yakut is considerably more restricted (Nedjalkov 2007d: 238). In the spirit of Janic (2016), Gandon (2018) argues that the reciprocal and antipassive functions in these languages evolved independently of each other from a general function pertaining to plurality of relations. However, considering the very limited distribution of the antipassive function among the Turkic languages, the reciprocal function most likely developed prior to the antipassive function, which is probably an innovation in Tatar and Yakut. This development is illustrated in Table 7.23. Kuular (2007: 1214) briefly describes

a “detransitive” use of the suffix *-š* in Tuvan whereby “[a] direct object is transformed into a non-direct object”. However, it is unclear if the suffix simply entails a change in language-specific argument marking or if it indicates that the “non-direct object” is less likely to be expressed syntactically and thereby qualifies as antipassive.

Table 7.23: ANTP-RECP syncretism of RECP origin in Turkic languages

| Common Turkic | *-š | RECP (+ POR) | → | ANTP |
|---------------|-----|----------------------------------|-----------------|-------------------|
| Tatar | -š | <i>sug-əš-</i> ‘to hit e.o.’ | <i>jaz-əš-</i> | ‘to write [sth.]’ |
| Yakut | -s | <i>kuot-us-</i> ‘to outrun e.o.’ | <i>kuot-us-</i> | ‘to outrun [sb.]’ |

Additionally, as argued in §7.2.1, a reciprocal suffix **-nci* can be reconstructed rather reliably for Proto-Gunwinyguan. In the descendant Gunwinyguan language Nunggubuyu (AU) the reflex *-n^yji* seems to have developed an antipassive function, though it is worth noting that this function is very restricted in the language. The only two examples of the phenomenon in the language provided by Heath (1984: 391ff.) are those presented in Table 7.24.

Table 7.24: ANTP-RECP syncretism of RECP origin in Nunggubuyu

| P.-Gunwinyg. | *-nci | RECP | → | ANTP |
|--------------|-------------------------|--|---------------------------------|-------------------|
| Nunggubuyu | <i>-n^yji</i> | <i>na-n^yji-</i> ‘to see e.o.’ | <i>warguri-n^yji-</i> | ‘to carry [sth.]’ |
| | | <i>yalgiwa-n^yji-</i> ‘to pass e.o.’ | <i>lharma-n^yji-</i> | ‘to chase [sth.]’ |

Furthermore, as already discussed in §5.2.3, the suffix *-ut* in the Eskimo language Central Alaskan Yupik (NA) can serve as voice marking in not only the antipassive and reciprocal voices, but also in the applicative voice, commonly with a comitative function. In fact, Fortescue (2007: 841) argues that the suffix is “an original applicative formant”, a use retained throughout the Eskimo-Aleut language family. Fortescue reconstructs the applicative-reciprocal suffix **-utə* for Proto-Eskimo, as both functions can be found in all descendant languages (see also Fortescue et al. 1994: 431). In contrast, the antipassive use of the suffix does not appear to be widespread and is, for instance, absent in the Inuit languages West Greenlandic (Schmidt 2003) and Inuktitut (Spreng 2006). Moreover, in Central Alaskan Yupik the antipassive use of *-ut* is restricted to a “rather limited number of stems”, unlike the applicative and reciprocal uses (Miyaoaka 2012: 1109). Evi-

dently, the antipassive function of the suffix *-ut* represents an innovation that has evolved from applicative-reciprocal syncretism, as illustrated in Table 7.25 (Miyaoka 2012: 1092f.). Thus, the evolution of antipassive-reciprocal syncretism in Central Alaskan Yupik is slightly different from that discussed above for Bantu and Turkic languages as well as Nunggubuyu.

Table 7.25: ANTP-RECP syncretism of RECP origin in C. A. Yupik

| Proto-Eskimo | *-utə | RECP (+ APPL) | → | ANTP |
|--------------|-------|---|---|-----------------|
| C. A. Yupik | -ut | ikayu-ut- ‘to help e.o.’ (cf. an-ut- ‘to go out with sb.’) | | ‘to help [sb.]’ |

As described in §4.2.2, the Kordofanian language Lumun (AF) possesses the affixes *-(a)rɔ* (with the allomorphs *<ar>*, *<rɔ>* and *-rɔ*) and *-ttɔ* (with the allomorph *<ttɔ>*) which can both serve as voice marking in the reciprocal and antipassive voices. Cognates of these affixes can be found in the related language Dagik, in which *<(ə)r>* indicates sociativity and reciprocity, and *<-(ə)t>* indicates pluractionality, iterativity, habituality, durativity and also reciprocity in combination with the former affix (Vanderelst 2016: 98ff., 128ff.). Neither affix in Dagik seems to have an antipassive function. In light of this (rather limited) data and the other various descriptions of antipassive-reciprocal syncretism of reciprocal origin in other genera, it is possible that the reciprocal function of the affixes *-(a)rɔ* and *-ttɔ* in Lumun evolved prior to the antipassive function, though the exact chronology of the functions remains highly tentative for the time being.

In terms of functional explanations for antipassive-reciprocal syncretism, both Janic (2016) and Gandon (2018) argue that the antipassive and reciprocal functions evolved independently from a general function pertaining to plurality of relations, at least in the Oceanic and Turkic languages. While Janic (2016) does not address the diachrony in detail, Gandon (2018) specifically argues that the antipassive function of the Common Turkic suffix **-s* evolved from plurality of actions due to its close relationship to iterativity, unlike reciprocity associated with plurality of participants. Such association between antipassivity and aspect is typologically well known (Polinsky 2017). By contrast, Bostoen et al. (2015: 759) acknowledge similarities between antipassivity and plurality of actions, but ultimately argue that “it is the progressive destitution of the second participant of the coordinated plural subject in reciprocal constructions that ultimately leads to the antipassive”, at least among the Bantu languages, and they thus link the rise of antipassivity to plurality of participants like reciprocity. In other words, recip-

rocal referents go from being equally prominent to being differentiated according to prominence (for instance, by word order or a comitative phrase language-specifically) before the least prominent referents are eventually omitted due to lack of prominence leading to antipassivity. Such scenario is perhaps best conceivable with lexically reciprocal verbs, e.g. ‘the man and his friends meet each other’ → ‘the man meets with his friends’ → ‘the man meets his friends’ → ‘the man meets [his friends]’. Sansò (2017; 2018) adopts a somewhat similar approach (§7.1.2), highlighting sociativity and comitativity as facilitating factors in the development from reciprocal to antipassive (see Table 7.3 on page 190). In any case, it can be difficult to effectively distinguish the explanations proposed by Janic (2016), Gandon (2018), Bostoen et al. (2015), and Sansò (2017; 2018) from each other in practice due to the close relationship between reciprocity and plurality of relations, and the explanations do not necessarily exclude one another. This section importantly shows that the reciprocal function of the voice marking discussed for the various languages above most likely evolved prior to the antipassive function. The exact chronology of the functions pertaining to plurality of participants (including reciprocity) remains a topic of future research.

7.2.5 From reciprocal to causative

As demonstrated in §5.3.1, the suffix *-kaka* in the Arawakan language Yine (SA) can serve as voice marking in both the causative and reciprocal voices (see Table 5.14 on page 141). Moreover, as mentioned in §7.2.1, Wise (1990) reconstructs a reciprocal function for the Proto-Arawakan suffix **-k^hak^h* whence the Yine suffix derives which indicates a reciprocal origin for the causative-reciprocal syncretism in the language. This presumed development is illustrated in Table 7.26 (Hanson 2010: 269, 271). However, it is worth observing that Wise (1990) and Payne (2002) both suggest that the development has been facilitated by comitative applicativity, at least among Pre-Andine Arawakan languages (§7.6.3). While Yine does not belong to this Arawakan grouping, the possibility of an applicative stage is presented in parentheses in Table 7.26.

Table 7.26: CAUS-RECP syncretism of RECP origin in Yine

| P.-Arawakan | <i>*-k^hak^h</i> | RECP (→ APPL?) | → | CAUS |
|-------------|--------------------------------------|----------------------|---------------|---------------------------------------|
| Yine | <i>-kaka</i> | <i>-hiylaka-kaka</i> | ‘to hit e.o.’ | <i>-halna-kaka</i> ‘to make sth. fly’ |

So far it has only been possible to find potential evidence for diachronic development from reciprocal to causative in two languages other than Yine, the Atlantic language Wolof (AF) and the Turkic language Khakas (EA). As briefly noted in §4.3.3, the former language features the suffix *-e* with causative and reciprocal functions (in addition to applicative and antipassive functions). Creissels & Nougulier-Voisin (2008: 304) argue that “reciprocal *-e* may be the reflex of an ancient suffix **-e* whose possible uses included several varieties of co-participation”. This diachronic scenario would be very similar to that mentioned for the Pre-Andine Arawakan languages above, though Creissels & Nougulier-Voisin admit that more comparative research is needed to confirm their proposal. The Khakas case is analogous to the Yine and Wolof cases. In this language the suffix *-s* has been observed to have a causative function with the two verbs in Table 7.27. As discussed in the previous section as well as in §7.2.1 and §7.2.2, the Common Turkic suffix **-š* whence Khakas *-s* descends is generally believed to have had functions pertaining to reciprocity and plurality of relations (cf. *hucahta-s-* ‘to embrace e.o.’, Arikoğlu 2007: 1100). Gandon (2013: 71) briefly notes that a similar phenomenon is exemplified by Öner (2007: 707) for Tatar (cf. *kal-* ‘to stay’ ↔ *kal-ış-* ‘to leave sth.’) but goes on to argue that the translation of the latter verb here seems to be incorrect as Öner (2009) translates it ‘to stay behind’ elsewhere.

Table 7.27: Causative use of the suffix *-s* in Khakas

| Khakas (Arikoğlu 2007: 1101; Gandon 2013: 71) | | | |
|---|-------------|-------------|---|
| CAUS | <i>art-</i> | ‘to stay’ | ↔ <i>art-ıs-</i> ‘to leave sth.’ (i.e. ‘to make sth. stay’) |
| CAUS | <i>em-</i> | ‘to suckle’ | ↔ <i>em-ış-</i> ‘to breastfeed sb.’ (i.e. ‘to make sb. suckle’) |

In light of the evidence presented above, it would seem that some sense of comitativity or co-participation is central to the diachronic development from reciprocal to causative, and this matter is discussed in more detail in §7.6.3.

7.2.6 From reciprocal to applicative

Evidence for a diachronic development from reciprocal to applicative is scant and the phenomenon has received little attention in the literature, yet the development does appear to have taken place in at least two genera in the language sample. For instance, as already discussed in §7.2.2, the Proto-Bantu suffix **-an* is widely associated with reciprocity, sociativity, and other functions related to plurality of relations. While these functions are attested for reflexes of the suffix

in a wide range of descendant Bantu languages, it seems that reflexes of the suffix have developed a proper comitative and/or instrumental applicative function only sporadically (Bostoen et al. 2015: 753ff.; Dom et al. 2016: 138f.). This development is illustrated in Table 7.28 (Duala = Ittmann 1939: 140f. via Maslova 2007: 341; Kinyarwanda = Aksenova 1994: 160, 177 via Nedjalkov 2007d: 275).

Table 7.28: APPL-RECP syncretism of RECP origin in Bantu languages

| Proto-Bantu | *-an | RECP (+ POR) | → | APPL |
|-------------|------|--------------|-------------------|----------------------------------|
| Duala | -ne | énè-ne | ‘to see e.o.’ | dípà-ne ‘to beat sb. with sth.’ |
| Kinyarw. | -an | -kurèb-an- | ‘to look at e.o.’ | -kôr-an- ‘to work with sth./sb.’ |

Likewise, as discussed in the previous sections, reflexes of the Common Turkic suffix *-š are in descendant languages widely associated with functions pertaining to plurality of relations like the Proto-Bantu suffix *-an discussed above, including reciprocity. In some Turkic languages reflexes of the proto-suffix *-š appear to have developed a proper comitative applicative function, for instance in Yakut (Nedjalkov 2007b: 107) and Tuvan (Kuular 2007: 1201), as illustrated in Table 7.29. By comparison, in Karachay-Balkar the suffix -š has a sociative function (e.g. *onşun-uş-* ‘to be pleased together’, Nedjalkov & Nedjalkov 2007: 1001) but no comitative applicative function, and in Kirghiz the suffix has neither function (Nedjalkov 2007e: 1233).

Table 7.29: APPL-RECP syncretism of RECP origin in Turkic languages

| Common Turkic | -š | RECP (+ POR) | → | APPL |
|---------------|----|--------------|----------------|------------------------|
| Yakut | -s | ölör-üs- | ‘to kill e.o.’ | ‘to kill sb. with sb.’ |
| Tuvan | -š | üpte-š- | ‘to rob e.o.’ | ‘to rob sb. with sb.’ |

Observe that the Yakut and Tuvan verbs in Table 7.29 also can have a sociative meaning (‘to kill sb. together’ and ‘to rob sb. together’, respectively), and so can the suffix -an in Kinyarwanda (cf. -guhîng-an- ‘to cultivate sth. together’, Coupez 1985: 15), while it is unclear to which extent this function is productive for the suffix -ne in Duala. This syncretism clearly illustrates the close semantic relation between reciprocity and sociativity (i.e. plurality of participants) on the one hand and comitative applicativity on the other hand. In turn, comitative applicativity is closely related to instrumental applicativity, as further discussed in §7.5.3

and §7.6.3 (see also, e.g., [Creissels & Nougier-Voisin 2008](#) on co-participation). These semantic links provide a plausible explanation for the rise of applicative-reciprocal syncretism in the languages discussed in this section.

7.3 Anticausative origin

Prospects of an anticausative origin for voice syncretism are generally associated specifically with passive-anticausative syncretism, as diachronic development from anticausative to passive is often regarded as an intermediary step in the evolution from reflexive to passive, notably among Indo-European languages (§7.1.3). However, as shown in §7.3.3, passive-anticausative syncretism can also have an anticausative origin not associated with reflexivity. Furthermore, [Inglese \(2020\)](#) has argued for an anticausative origin for reflexive-anticausative and reciprocal-anticausative syncretism in the extinct Indo-European language Hittite, as discussed in the next two sections.

7.3.1 From anticausative to reflexive

While development from reflexive to anticausative is well-attested (§7.1.2), evidence for the opposite development is scant and seemingly restricted to the extinct Indo-European language Hittite. As described by [Inglese \(2020\)](#), this language features a middle voice characterised by suffixation which fuses person agreement and various other functions, including passive, reflexive, reciprocal, and anticausative functions. These four voice functions are illustrated in Table 7.30. The translations on the left side of the bidirectional arrows in the table denote the meanings of the respective verbs when used without a middle suffix, while the translations on the right side of the arrows denote the meanings of the respective verbs when used with a middle suffix. [Inglese \(2020: 240\)](#) ultimately argues that the anticausative function has given rise to the other three functions “through independent semantic extensions”. In turn, the anticausative function itself is believed to have evolved from media tantum (i.e. deponent verbs) which always feature a middle suffix and cannot be used without one ([Inglese 2020: 241ff.](#); see also [Luraghi 2012](#)).

[Inglese \(2020\)](#) favours an anticausative origin for the passive, reciprocal, and reflexive functions of the middle suffixes in Hittite for a number of reasons, the most important ones of which are here summarised in brief. Firstly, [Inglese’s \(2020: 231\)](#) data from different diachronic stages of the Hittite language “clearly shows that the passive function is on the rise in the history of Hittite, so that it

Table 7.30: Middle syncretism in Hittite

| Hittite (Inglese 2020: 133, 142, 148ff., 155f., 209) | | | | |
|--|-------------------|---------------------|---|----------------------------------|
| PASS | <i>istāp-</i> | ‘to close sth.’ | ↔ | [MID] ‘to be closed [by sb.]’ |
| PASS | <i>tamāss-</i> | ‘to oppress sb.’ | ↔ | [MID] ‘to be oppressed [by sb.]’ |
| REFL | <i>suppiyahh-</i> | ‘to purify sb.’ | ↔ | [MID] ‘to purify self’ |
| REFL | <i>das(sa)nu-</i> | ‘to strengthen sb.’ | ↔ | [MID] ‘to strengthen self’ |
| RECP | <i>zahh-</i> | ‘to hit sth.’ | ↔ | [MID] ‘to hit e.o.’ |
| RECP | <i>epp-</i> | ‘to take sth.’ | ↔ | [MID] ‘to take e.o.’ |
| ANTC | <i>zinni-</i> | ‘to end sth.’ | ↔ | [MID] ‘to end’ |
| ANTC | <i>istāp-</i> | ‘to close sth.’ | ↔ | [MID] ‘to close’ |

appears to be a relatively younger development, hence unlikely to be the original function of the middle voice”. Secondly, the reciprocal function is also “an unlikely candidate” for the original function of the middle because it is “among the least frequent functions associated with the middle voice” (Inglese 2020: 230). Moreover, the middle suffixes in Hittite are not associated with plurality of relations which alongside reciprocity is known to serve as an origin for other voices (§7.2). Thirdly, following Luraghi (2010; 2012), Inglese (2020: 230) argues that “reflexivity can hardly lie at the core of the Hittite middle voice system” because it “remains a quantitatively marginal function throughout the history of the language” and “middle forms with reflexive reading are reinforced by the particle =*za* since their earliest attestation”. In fact, Inglese (2020: 83, 147) attests only two verbs that can have a reflexive meaning when used with a middle suffix in his corpus of original Hittite texts, and in both cases the verbs are accompanied by the particle =*za* which also can be used on its own without a middle suffix to denote reflexivity. In his corpus of copies of Hittite texts, Inglese (2020: 148) only attests six additional verbs of the same kind which “are also quite systematically associated with the particle =*za*”.

A probable developmental scenario from anticausative to reflexive is discussed here, while plausible scenarios of development from anticausative to reciprocal and from anticausative to passive are described in the following two sections. Inglese (2020: 235) suggests that the reflexive function of the middle suffixes in Hittite has evolved from the anticausative function facilitated by autocausativity, e.g. ‘if some enemy mobilizes [*niniktari*.PRS.3SG.MID]’ (i.e. ‘to rise’, the verb *ninik-* has the meaning ‘to raise sth.’ without a middle suffix). According to Inglese (2020: 236), “[o]ne can speculate that the possibility of animate subjects to occur

with otherwise [anticausative] verbs led to the expansion of the autocausative use, hence providing the natural bridging context to reflexive situations proper, in which the subject not only initiates the event, but is also fully affected by it” (cf. the reflexive examples in Table 7.30). This diachronic scenario is essentially the exact opposite of that attested for reflexive-anticausative syncretism of reflexive origin/reflexive origin discussed in §7.1.2, and boils down to a shift in animacy and thereby a shift in the capability to act upon oneself.

7.3.2 From anticausative to reciprocal

Both the anticausative and reciprocal voices are known to commonly evolve from a reflexive voice (§7.1.1 and §7.1.2), yet there is some evidence for a reciprocal origin of reciprocal-anticausative syncretism (§7.2.2) and in this section potential evidence for an anticausative origin for the same kind of voice syncretism is considered. As already discussed in the previous section, Inglese (2017; 2020) argues that the reciprocal function of middle suffixes in the extinct Indo-European language Hittite has evolved from an earlier anticausative function and not vice versa. Inglese considers two potential scenarios for this development. In one scenario the reciprocal voice has evolved from a reflexive voice which in turn has evolved from an anticausative voice, as described in the previous section. However, Inglese (2020: 238) considers this scenario unlikely as the reflexive function of the middle suffixes is “extremely limited in O[ld] H[itite]” and restricted largely to the two verbs in Table 7.30 in the previous section. Instead, Inglese (2020: 238) prefers a scenario in which the reciprocal function of the middle suffixes in Hittite evolved directly from the anticausative function initially among lexically reciprocal verbs, e.g. ‘the gods gathered [*taruppantat*.PST.3.PL.MID] all together’. Inglese (2020: 239) suggests that “[d]ue to the specific interplay of the verb’s inherent reciprocal meaning, the middle voice’s autocausative meaning, and the plurality of the subjects involved [...] can be conceived as describing a situation in which multiple entities bring about a change in spatial configuration with respect to one another” and “[f]rom such contexts, a reciprocal non-spatial meaning can be easily inferred as primary, and the reciprocal meaning can eventually be extended to non-spatial situations”. Thus, the scenario hypothesised by Inglese basically represents a reverse development in comparison to the development from reciprocal to anticausative described in §7.2.2: *tarupp-* ‘to gather sth.’ → *tarupp-* [MID] ‘to gather’ and by extension → *zahh-* [MID] ‘to hit e.o.’

7.3.3 From anticausative to passive

Voice development from anticausative to passive is perhaps best known as an intermediary step in the evolution from reflexive to passive, notably among Indo-European (§7.1.3). The voice development in these languages can also be characterised as syncretic reflexive-anticausative voice marking developing a passive function, because the marking in question generally had both reflexive and anticausative functions when the passive function first evolved. A similar development seems to have taken place in the Tibeto-Burman language Dhimial (EA; §4.1.6). In contrast, voice development from anticausative to passive with no involvement of reflexivity has received little attention in the literature and examples of the phenomenon are rare. A clear case of such development can, however, be found in Korean (EA). As described by Ahn & Yap (2007), the suffix *-aci/-eci* in this language has a number of functions, most notably “spontaneous middle” (anticausative), inchoative, passive, and “facilitative” (potential passive). According to Ahn & Yap (2007: 444ff.), the suffix ultimately derives from the verb *ti-* ‘to fall, sink’ which underwent a process of grammaticalisation starting in the 15th century and developed an anticausative function when preceded by the infinitival suffix *-a/-e*. During the 17th century the initial consonant of the grammaticalised suffix *-ti* underwent palatalisation and the innovative suffix *-aci/-eci* developed an inchoative function (Ahn & Yap 2007: 446ff.). In the following century the suffix went on to develop a passive function as well (Ahn & Yap 2007: 451ff.). This development is illustrated in Table 7.31.

Table 7.31: PASS-ANTC syncretism of ANTC origin in Korean

| Korean | | | | |
|---------|----------------------------|-------------------|---------------------------------------|--------|
| 15th c. | <i>ti-</i> ‘to fall, sink’ | | | |
| | ↓ | | | |
| | <i>-e/-a + -ti</i> | <i>sot-a-ti-</i> | ‘to pour away’ | ANTC |
| | ↓ | | (cf. <i>sot-</i> ‘to pour sth. out’) | ↓ |
| 17th c. | <i>-aci/-eci</i> | <i>palk-acy-</i> | ‘to become bright’ | ↓ INCH |
| | ⋮ | | (cf. <i>palk-</i> ‘to be bright’) | ↓ |
| 18th c. | ⋮ | <i>mwunh-ecy-</i> | ‘to be destroyed [by sb.]’ | ↓ PASS |
| | | | (cf. <i>mwunh-</i> ‘to destroy sth.’) | |

Observe that *-acy/-ecy* are simply phonologically conditioned allomorphs of *-aci/-eci*. Moreover, note that the 15th century represents Middle Korean and the 17th and 18th centuries represent Early Modern Korean, yet each of the three functions remain productive in contemporary Korean as well (Ahn & Yap 2007: 459). A potential passive function mentioned above did not evolve until the 20th century and is not covered by Table 7.31. Ahn & Yap (2007: 451) argue that “[e]ssentially, extended uses of *-eci* from intransitive verb contexts to transitive ones gave rise to passive voice usage”, and highlight inchoativity as a facilitating factor in the process: “[t]he semantic property that links the inchoative middle with the passive is the complete lack of volitional initiation by the subject, which in both inchoative and passive constructions is the Patient of the event”. In more general terms, Haspelmath (1990: 45) notes that the passive essentially is a “generalization of the anticausative in that it is not restricted to spontaneously occurring processes” but comes to feature an additional semantic participant.

7.3.4 From anticausative to antipassive

There is currently no clear evidence for a development from anticausative to antipassive in any language. Haspelmath (2003: 225) tentatively links the two voices to each other but also explicitly states that “diachronic data are insufficient”. Nevertheless, it might be worth mentioning that the Surmic language Majang (AF) features antipassive-anticausative voice marking with no other apparent voice functions (see examples 9a–9e on page 90). Unfortunately, however, there are currently not enough diachronic data available to establish the exact development of antipassive-anticausative syncretism in this language.

7.4 Passive origin

Evidence for voice syncretism of passive origin is sparse, and the literature on such diachrony equally so. However, the following sections demonstrate that there is some evidence suggesting that passive voice marking can potentially develop a reflexive, reciprocal, or anticausative function.

7.4.1 From passive to reflexive

Discussions of a passive origin for passive-reflexive syncretism in the literature seem to be restricted to a single language, the Uto-Aztecan language Tarahumara (NA), in which the “passive-impersonal” suffix *-ru* “has extended to reflexive use” (Langacker & Munro 1975: 803; see also, e.g., Anderson et al. 1976: 18

and Dik 1983: 252). This suffix derives from the Proto-Uto-Aztecan copula **-tu* ‘to become’, and Langacker & Munro (1975: 798) remark that this original use is also retained in Tarahumara but provide no examples. The purported diachronic development of the suffix in Tarahumara is illustrated in Table 7.32. Nevertheless, it should be noted that Langacker & Munro only provide three verbs as evidence for their claim (the two verbs in Table 7.32 in addition to the impersonal verb *goči-ru* ‘one sleeps’), and it is unclear how widespread and productive the reflexive function of the suffix *-ru* is. For comparison, the passive and impersonal functions of the suffix *-ru* are covered by Caballero (2008) on Choguita Tarahumara and by Jara (2013) on Urique Tarahumara but neither author mentions any reflexive use. In the closely related language River Warihio the suffix *-tu* (also reflecting Proto-Uto-Aztecan **-tu*) does not appear to have any reflexive use either (Félix Armendáriz 2005). Burgess (1984: 32) characterises the suffix *-ru* in Western Tarahumara as “PASS/IMPERS[onal]/STAT[ive]/REFL/[APPL]” but provides no reflexive example and does not discuss the functionality of the suffix in any more detail. Consequently, although Tarahumara remains a candidate for passive-reflexive syncretism of passive origin, the matter remains unresolved for the time being until more data become available.

Table 7.32: PASS-REFL syncretism of PASS origin in Tarahumara

| Proto-Uto-Azt. | ‘to become’ <i>*-tu</i> | PASS | → REFL |
|----------------|----------------------------|--|-------------------------------|
| Tarah. | <i>-ru</i> | <i>ʔa-ru</i> ‘to be given sth. [by sb.]’ | <i>pago-ru</i> ‘to wash self’ |

Another and perhaps better candidate for passive-reflexive syncretism of passive origin is the Lowland East Cushitic language Ts’amakko (AF) in which the suffix *-am* can serve as voice marking in both the passive and reflexive voices (Savà 2005: 207ff.). As discussed in more detail in the next section, this suffix can be traced back to Proto-East-Cushitic **-am* for which an original passive function has been reconstructed (Hayward 1984). The presumed development from passive to reflexive is illustrated in Table 7.33. The suffix *-om* is “probably historically” composed of the inceptive suffix *-aw* and the passive suffix *-am* (Savà 2005: 198). It has hitherto not been possible to find a similar reflexive function for reflexes of the Proto-East-Cushitic suffix **-am* in other East Cushitic languages. It is worth noting that Savà (2005: 208, 242f., 257) also provides two examples of the Ts’amakko suffix *-am* which seemingly qualify as anticausative: *bul-am* ‘to separate’ in the sense ‘to go separate ways’ (cf. *bul-* ‘to separate sth.’) and

ḡond-am- ‘to break’ (cf. *ḡond*- ‘to break sth.’). Thus, it is possible that the development from passive to reflexive has been facilitated in part by anticausativity. In that case, the diachrony of passive-reflexive syncretism in Ts’amakko would present a reverse version of the diachronic development from reflexive to passive facilitated by anticausativity (§7.1.3) generally assumed to have taken place among Indo-European languages (§7.1).

Table 7.33: PASS-REFL syncretism of PASS origin in Ts’amakko

| Proto-East-Cushitic | *-am | PASS | → | REFL |
|---------------------|------|---|---|--|
| Ts’amakko | -am | <i>q’aq’-am</i> ‘to be cut [by sb.]’ | | <i>šiin-am</i> - ‘to smear self’ <i>šud’am</i> - ‘to dress self’ (cf. <i>šooḥ-om</i> - ‘to wash self’) |

7.4.2 From passive to reciprocal

Diachronic development from passive to reciprocal does not seem to have received any prior treatment in the literature. However, as briefly mentioned in §7.2.3, such development appears to have taken place in the Highland East Cushitic language Sidaama (AF). In this language the suffix *-am* serves as voice marking in the passive, reciprocal, and anticausative voices (see Table 5.3 on page 130). Hayward (1984: 97) observes that cognates of this suffix can be found “in nearly every Eastern Cushitic language”, mainly with a passive function, and goes on to reconstruct a “passive neuter extension” suffix *-am for Proto-East-Cushitic. In some descendant languages reflexes of the suffix have a marginal anticausative function, as also noted implicitly by Hayward (1984: 98) – and even a reflexive function in one language, Ts’amakko, as described in the previous section. By contrast, passive-reciprocal type 1 syncretism is apparently only attested in Sidaama, although passive-reciprocal type 2 syncretism can be found in the related languages Hadiyya, Alaaba, and K’abeena. For comparative purposes, the expression of passivity and reciprocity is illustrated in these five languages and seven other East Cushitic languages in Table 7.34. The suffix *-akk*’ is an innovative “middle” suffix (Hayward 1984: 90) with mainly autobenefactive and reflexive uses when used on its own (see Schneider-Blum 2007: 312ff. on Alaaba and Crass 2005: 141ff. on K’abeena).

Table 7.34: Passive and reciprocal marking in E. Cushitic languages

| | | PASS | RECP | |
|----------|-----------|-------|-----------|-----------------------|
| Highland | Sidaama | -am | -am | (Kawachi 2007) |
| | Hadiyya | -am | -am-am | (Tadesse 2015) |
| | Alaaba | -am | -akk'-am | (Schneider-Blum 2007) |
| | K'abeena | -am | -akk'-am | (Crass 2005) |
| | Burji | -am | [PERIPH.] | (Tesfaye 2015) |
| Lowland | Ts'amakko | -am | ? | (Savà 2005) |
| | Konso | -am | [PERIPH.] | (Ongaye 2013) |
| | Bayso | -am | [PERIPH.] | (Lemmi 2018) |
| | Girirra | -am | isi- | (Mekonnen 2015) |
| | Oromo | -am | wal- | (Teferi 2019) |
| | Saaho | -(V)m | [PERIPH.] | (Esayas 2015) |
| | Afar | -(V)m | [PERIPH.] | (Hassan Kamil 2015) |

Considering the distribution of the passive and reciprocal functions of Proto-East-Cushitic *-am in descendant languages, the reciprocal function of the Sidaama suffix -am likely evolved from the passive function. This diachronic development is illustrated in Table 7.35 (Kawachi 2007: 334, 342), which also includes the passive-reciprocal type 2 syncretism found in Hadiyya (Tadesse 2015: 75), Alaaba (Schneider-Blum 2007: 310, 321), and K'abeena (Crass 2005: 143, 145).

Table 7.35: PASS-RECP syncretism of PASS origin in E. Cushitic languages

| P.-E.-Cush. | *-am | PASS | → | RECP |
|-------------|------------|---------|-----------------|-------------------------------|
| Sidaama | -am | gan-am- | ‘to be hit’ | gan-am- ‘to hit e.o.’ |
| Hadiyya | [-am]-am | gan-am- | ‘to be hit’ | gan-am-am- ‘to hit e.o.’ |
| Alaaba | [-akk’]-am | hog-am- | ‘to be cleaned’ | ?iitt-akk’-am- ‘to love e.o.’ |
| K’abeena | [-akk’]-am | mur-am- | ‘to be cut’ | le’-akk’-am- ‘to see e.o.’ |

The manner in which the passive voice marking in Sidaama developed its reciprocal functions is not entirely clear, and information from related languages does not seem to shed much light on the issue either. However, it is worth noting that the passive and reciprocal voices both involve semantic referents being acted upon by others, but in the reciprocal voice the referents themselves also act

upon others unlike in the passive voice. In Sidaama it seems that the referents in the passive voice apparently gained the capability to act upon others. Moreover, it might be noted here that the suffix *-am* in Sidaama also has a “very limited” iterative meaning (Kawachi 2007: 344), which might link it to plurality of relations and thereby maybe to reciprocity (§7.2). Finally, note that the language possesses a lexicalised verb *šarr-am-* ‘to wrestle’, which cannot be used without the suffix *-am* (Kawachi 2007: 344), and one can hypothesise that the reciprocal function of the suffix might have first evolved with lexically reciprocal verbs: *šarr-am-* ‘to be wrestled by sb.’ → ‘to be wrestled by sb. and thereby wrestle that person’ → ‘to wrestle e.o.’ and by extension → *gan-am-* ‘to hit e.o.’

7.4.3 From passive to anticausative

Voice development from passive to anticausative has received slightly more attention than the diachronic developments described in the previous two sections. For instance, Malchukov & Nedjalkov (2015) have argued for such development among certain Tungusic languages. As discussed in more detail later in §7.5.2, it is well-known that the Proto-Tungusic causative suffix **-bu* has developed a passive function in many descendant languages. Additionally, some reflexes of the suffix have even developed an anticausative function, albeit a marginal one, for instance the reflex *-v* in Evenki. Given the distribution of the various functions among Tungusic languages, Malchukov & Nedjalkov (2015: 611) suggest that the anticausative function developed via the passive. This development is illustrated by examples from Evenki in Table 7.36 (Malchukov & Nedjalkov 2015: 608f.). It is worth noting, however, that the causative function has been retained alongside the passive function, for which reason the development might be described more precisely in terms of causative-passive voice marking developing an anticausative function.

Table 7.36: PASS-ANTC syncretism of PASS origin in Evenki

| Proto-Tungusic | <i>*-bu</i> | PASS (+ CAUS) | → | ANTC |
|----------------|-------------|--|---|----------------------------|
| Evenki | <i>-v</i> | <i>oo-v-</i> ‘to be built [by sb.]’ (cf. <i>suru-v-</i> ‘to lead sb. away’) | | <i>sukča-v-</i> ‘to break’ |

Furthermore, Kulikov (2011a: 232) has hypothesised that a development from “passive to anticausative through impersonalization” is “not infrequent – in particular, in a number of Indo-European languages”, but that “the passive to anti-

causative transition is only rarely explicitly mentioned in grammars and has not received due attention in the literature”. However, Kulikov (2011a: 246ff.) only explicitly discusses such development in relation to Old Church Slavonic, Greek, Latin, and Vedic Sanskrit). Kulikov (2011a: 232) concentrates on the latter language for which he describes a “clear instance of such development” in which the suffix *-yá* with a supposedly original passive function has developed an anticausative function with some verbs. In his discussion of this development, Kulikov focuses primarily on verbs of perception, including those listed in Table 7.37. In these examples the original (a) meanings of the respective verbs are passive, while the later (b) meanings are anticausative according to Kulikov (2011a: 234, 249): “[t]he non-passive usages of the passives derived from verbs of perception of the type ‘is seen’ → ‘is visible; appears’ represent the commonest instance of passive to anticausative transition, and can probably be found in most languages with passives”. However, the purported anticausative function (b) is not acknowledged in this book. As described in §2.2.4, in this book an anticausative voice is defined in contrast to a diathesis in which an additional semantic participant not found in the anticausative voice is a causer – but there is no such additional semantic participant in Kulikov’s examples (otherwise the contrasting meaning of the verbs *ḍṛś-*, *śrū-* and *vid-* would have been *‘to make sth. be visible’, *‘to make sth. be visible’, and *‘to make sth. be findable’, respectively).

Table 7.37: Verbs of perception in Vedic Sanskrit

| Vedic Sanskrit (Kulikov 2011a: 234–241) | | | | | |
|---|----------------|---|----------------|------------------|----------------------------|
| <i>ḍṛś-</i> | ‘to see sth.’ | ↔ | <i>ḍṛś-yá-</i> | a. ‘to be seen’ | b. ‘to be visible, appear’ |
| <i>śrū-</i> | ‘to hear sth.’ | ↔ | <i>śrū-yá-</i> | a. ‘to be heard’ | b. ‘to be audible, famous’ |
| <i>vid-</i> | ‘to find sth.’ | ↔ | <i>vid-yá-</i> | a. ‘to be found’ | b. ‘to be findable, exist’ |

Nevertheless, Kulikov (2011a) also discusses the verb of speech *vac-* ‘to pronounce sth.’ (i.e. ‘to sound sth.’) at some length, as well as a few verbs of “causation of motion” in brief, and the suffix *-yá* can indeed have an anticausative function with these verbs. Kulikov (2011a: 245) remarks that the anticausative function of the verbs “could further be supported by the influence of the middle non-passive presents with the suffix *-ya-* and root accentuation [...] derived from some verbs of motion”, qualifying as equipollent causative-anticausative voice relations. Both kinds of voice relations are illustrated in Table 7.38.

Table 7.38: Anticausative voice in Vedic Sanskrit

| Vedic Sanskrit (Kulikov 2000: 202f.; 2007: 713; 2011a: 241ff., 244ff.; 2011b: 318; 2012: 168; 2017: 388; Kulikov & Lavidas 2017: 302) | | | | | |
|---|-----------------|-------------------|---|----------------|-----------------|
| ANTC | <i>vac-</i> | ‘to sound sth.’ | ↔ | <i>uc-yá-</i> | ‘to sound’ |
| ANTC | <i>sic-</i> | ‘to pour sth.’ | ↔ | <i>sic-yá-</i> | ‘to pour (out)’ |
| ANTC | <i>kṛ-</i> | ‘to scatter sth.’ | ↔ | <i>kṛ-yá-</i> | ‘to scatter’ |
| CAUS/ANTC | <i>pād-áya-</i> | ‘to fell sth.’ | ↔ | <i>pád-ya-</i> | ‘to fall’ |
| CAUS/ANTC | <i>ri-ṇá-</i> | ‘to whirl sth.’ | ↔ | <i>rī-ya-</i> | ‘to whirl’ |
| CAUS/ANTC | <i>pṛ-ṇá-</i> | ‘to fill sth.’ | ↔ | <i>pūr-ya-</i> | ‘to fill’ |
| CAUS/ANTC | <i>kṣi-ṇá-</i> | ‘to perish sth.’ | ↔ | <i>kṣī-ya-</i> | ‘to perish’ |

Observe that the difference in accentuation of the suffix (-*yá* vs. -*ya*) in Table 7.38 has been the topic of much debate in its own right, but a detailed treatment of accentual differences goes beyond the scope of this discussion. Kulikov (2011a: 246) focuses specifically on the development of -*yá* and its functions, but also briefly acknowledges a “passive to anticausative transition” for the suffix -*ya*. Kulikov (2011a: 248) ultimately argues that the anticausative function arose from the passive function through four stages: (i) “canonical” passive → (ii) “agentless” passive → (iii) “impersonalized” passive → (iv) anticausative. According to Kulikov, the difference between the second and third stages lies in the nature of the omitted agent: in the “agentless” passive it is non-generic, and in the “impersonalized” passive it is generic. In other words, non-absolute passive → absolute passive with non-generic agent → absolute passive with generic agent → anticausative. Hock (2019: 182) has recently taken a more cautious stance on the matter, arguing that “with a few exceptions the Vedic [Sanskrit] evidence makes it difficult to decide on the directionality” of the development due to the “systematic ambiguity between passive and anticausative interpretation” of the suffix -*yá* (and -*ya*). Hock (2019: 188) instead speculates that “the distinction between passive and anticausative is secondary”. More specifically, Hock (2019: 188f.) argues that “no distinctly passive or anticausative functions can be reconstructed for the [Proto-Indo-European] verbs in *-ye/o-” from which Vedic Sanskrit -*yá* (and -*ya*) descend. Consequently, “the ancestors of our passive/anticausative verbs originally only had undifferentiated intransitive function” (Hock 2019: 189). In other words, “passive or anticausative readings would have been a matter of pragmatics” and “[o]nly in later Vedic would some forms of this type acquire unambigu-

ous anticausative (or passive) functions” (Hock 2019: 189). Finally, Hock (2019: 190) comments that “[u]nder such near-systematic conditions of structural ambiguity, it is possible that different speakers preferred different accounts, whether for all relevant verbs, for subsets [...] or even individual verbs, in individual contexts”. Nevertheless, Hock does not reject the possibility of a passive to anticausative development altogether, noting that at least in relation to late Vedic Sanskrit such voice change “seems to be more appropriate” than an anticausative to passive development.

Finally, in Latin some verbs marked by one of several suffixes generally associated with passivity can indeed have an anticausative function (for a list of such verbs, see Miller 1993: 227), yet it remains unresolved whether or not this function is a vestige of the Proto-Indo-European middle suffixes from which the Latin suffixes derive, as Kulikov (2011a: 247) also notes.

7.5 Causative origin

Prospects of a causative origin for voice syncretism are normally associated with causative-passive (§7.5.2) as well as causative-applicative syncretism (§7.5.3). Interestingly, as demonstrated in the next section, some evidence indicates that causative voice marking can even develop an anticausative function.

7.5.1 From causative to anticausative

Diachronic development from causative to anticausative has been the focus of little research, yet sporadic evidence for the phenomenon can be found in a few Eurasian languages. For instance, the Proto-Tungusic causative suffix **-bu* has developed an anticausative function in some descendant languages (cf. Evenki *-v*), likely facilitated by passivity (§7.4.3). Moreover, there seems to be some evidence pointing toward a causative origin for causative-anticausative syncretism characterised by the suffix *-ke* in the language isolate Ainu (see Table 4.14 on page 112). As briefly noted in §3.2.4, Nonno (2015) suggests that this suffix can be traced back to the verb **ki* ‘to do, act’ which suggests a causative rather than an anticausative origin. Finally, Yap & Ahn (2019) have argued for a causative origin for causative-anticausative syncretism characterised by the suffix *-(C)i* in Korean (see Table 5.13 on page 141). According to Yap & Ahn (2019: 3ff., 9f.), the Korean suffix *-(C)i* has an attested causative function dating back at least to the 10th century whence an anticausative function evolved around the 15th century. This diachronic development is illustrated in Table 7.39. Note that the same suf-

fix also developed a passive function around the same time as the anticausative function (see the next section), but Yap & Ahn (2019: 16ff.) believe that both functions evolved concurrently from the causative function through a “causative-to-passive pathway” and “causative-to-middle pathway”, respectively. The origin of the suffix *-(C)i* itself is “largely unknown” though it may be related to the “proximal demonstrative *i* (‘this’) and the defective noun *i* (‘person’)” (Yap & Ahn 2019: 20). Both the causative and the anticausative functions remain productive in contemporary Korean.

Table 7.39: CAUS-ANTC syncretism of CAUS origin in Korean

| Korean | | | | | |
|---------|--------------|----------------|-----------------|-----------------------------------|------|
| 10th c. | <i>-(C)i</i> | <i>nep-hi-</i> | ‘to widen sth.’ | (cf. <i>nep-</i> ‘to be wide’) | CAUS |
| | ⋮ | | | | ↓ |
| 15th c. | ⋮ | <i>tat-hi-</i> | ‘to close’ | (cf. <i>tat-</i> ‘to close sth.’) | ANTC |

Yap & Ahn (2019: 8, 17f.) argue that the development from causative to anticausative in Korean “boil[s] down to shifts in perspective-taking” and hypothesise that so-called “reflexive causative *-i* constructions in Korean that involve bodily actions such as ‘scratching oneself’ [...] provide a bridging context for causative *-i* constructions to develop into middle [incl. anticausative] *-i* constructions”, e.g. *kulk-* ‘to scratch sth.’ → *kulk-hi-* ‘to make sb. scratch a body part’ → ‘to make sb. scratch self’. Yap & Ahn (2019: 17) suggest that the last stage came about through the elision of the body part being scratched “for reasons of politeness or discretion”. Nevertheless, this scenario does not explain the absence of causation in the anticausative voice (cf. *tat-hi-* ‘to close’, not *‘to make sth. close itself’). Elsewhere Yap & Ahn (2019: 10) also hint at causer elision in passing which itself can serve as an alternative explanation for the development from causative to anticausative: ‘the porter closed the gate’ → ‘(someone or something) closed the gate’ → ‘the gate closed’.

7.5.2 From causative to passive

Alongside voice syncretism of reflexive origin, causative-passive syncretism of causative origin is one of the most discussed diachronic developments of voice syncretism in the literature (e.g. Haspelmath 1990; Washio 1993; Knott 1995; Yap & Iwasaki 1998; 2003; Robbeets 2007; 2015; Ahn & Yap 2007; Yap & Ahn 2019; Zúñiga & Kittilä 2019). By contrast, it has hitherto not been possible to find any

attestation of passive voice marking developing a causative function. Causative-passive syncretism of causative origin has most notably been proposed for several Eurasian languages which will be described in this section. For instance, as mentioned in the previous section, the Korean suffix *-(C)i* which historically had a causative function developed a passive function around the 15th century (Yap & Ahn 2019: 11f.). This development is illustrated in Table 7.40.

Table 7.40: CAUS-PASS syncretism of CAUS origin in Korean

| Korean | | | | | |
|---------|--------------|----------------|-------------------------|----------------------------------|------|
| 10th c. | <i>-(C)i</i> | <i>nep-hi-</i> | ‘to widen sth.’ | (cf. <i>nep-</i> ‘to be wide’) | CAUS |
| | ⋮ | | | | ↓ |
| 15th c. | ⋮ | <i>cap-hi-</i> | ‘to be caught [by sb.]’ | (cf. <i>cap-</i> ‘to catch sb.’) | PASS |

Causative-passive syncretism of causative origin has also famously been described for the Tungusic languages mentioned in the previous sections. More specifically, the Proto-Tungusic verb **böö-* ‘to give’ is generally believed to have grammaticalised into the suffix **-bu* with a causative function which later developed a passive function (von der Gabelentz 1861: 518; Haspelmath 1990: 48; Nedyalkov 1993; Yap & Iwasaki 1998: 194ff.; Malchukov & Nedyalkov 2015: 608ff.). This development is illustrated in two Tungusic languages in Table 7.41 (Manchu = Nedyalkov 1991: 5; 1993: 194; Kilen = Zhang 2013: 117, 188f.).

Table 7.41: CAUS-PASS syncretism of CAUS origin in Tungusic languages

| Proto-Tungusic | <i>*-bu</i> | CAUS | → | PASS |
|----------------|----------------------|---------------|---|-------------------------|
| Manchu | <i>-bu va-bu-</i> | ‘to kill sb.’ | | ‘to be killed [by sb.]’ |
| Kilen | <i>-wu tanta-wu-</i> | ‘to hit sb.’ | | ‘to be hit [by sb.]’ |

Another rather clear example of voice development from causative to passive comes from Mongolic languages. Janhunen (2003a: 11) reconstructs a passive suffix (**-dA/-tA/-gdA*) and three causative suffixes (**-gA/-kA/-xA*, **-lgA*, and **-xUl*) for Proto-Mongolic that have largely been retained alongside their original functions in descendant languages (see Janhunen 2003b), though the passive function has been lost in many Southern Mongolic languages (see Field 1997 on Santa Mongolian, Slater 2003 on Mangghuer, and Fried 2010 on Bao’an Tu). In a few Mongolic languages causative voice marking has developed a passive function, e.g.

Mongolian causative-passive *-UUL* reflecting Proto-Mongolic **-xUl* (Svantesson 2003: 172; see Table 4.9 on page 102). This development in Mongolian is illustrated in Table 7.42 (Janhunen 2012: 250).

Table 7.42: CAUS-PASS syncretism of CAUS origin in Mongolian

| Proto-Mongolic | <i>*-xUl</i> | CAUS | → | PASS |
|----------------|--------------|---------------|---|---|
| Mongolian | <i>-UUL</i> | <i>id-uul</i> | | ‘to make/let sb. eat sth.’ ‘to be eaten [by sb.]’ |

Causative-passive syncretism can also be found in the Uralic language family in which the Proto-Uralic causative suffix **-t* (Collinder 1969: 278f.) or *-tä/-tå* (Janhunen 1982: 23) has developed a passive function in at least two Finno-Ugric languages, the Ugric language Hungarian (Haspelmath 1990: 48; Tankó 2016; 2017) and the Finnic language Finnish. In these languages the reflexes of the proto-suffix are *-(t)et/-(t)at* and *-ta/-tä*, respectively, and the development is illustrated in Table 7.43. For the sake of convenience, the Proto-Uralic, Hungarian, and Finnish suffixes are here given as **-tV*, *-(t)Vt*, and *-tV*, respectively. Moreover, note that the passive function of Hungarian *-(t)Vt* is obsolete in the modern language, and the passive example of the suffix in Table 7.43 thus represents archaic use. Also note that the Finnish suffix is obligatorily accompanied by the suffix *-an/-än* in the passive voice (i.e. causative-passive type 2 syncretism).

Table 7.43: CAUS-PASS syncretism of CAUS origin in F.-Ugric languages

| Proto-Uralic | <i>*-tV</i> | CAUS | → | PASS |
|--------------|---------------|-----------------|--------------------|--|
| Hungarian | <i>-(t)Vt</i> | <i>vár-at-</i> | ‘to make sb. wait’ | <i>ad-at-</i> ‘to be given [by sb.]’ |
| Finnish | <i>-tV</i> | <i>alen-ta-</i> | ‘to lower sth.’ | <i>lue-ta-an</i> ‘to be read [by sb.]’ |

Haspelmath (1990: 48) observes that a similar development may have taken place in the Indo-Aryan language Gujarati where the passive suffix *-ā* perhaps descends from the suffix *-āya* (Masica 1991: 317) which is believed to have had a causative function (Kulikov 2009: 84). A causative origin for causative-passive syncretism has also often been proposed for Turkic languages in some of which cognates of the suffix *-t* can serve as voice marking in both the causative and passive voices (Haspelmath 1990: 48; Robbeets 2007: 178f.; 2015: 290ff.). However, Robbeets (2015: 290) reconstructs an “original causative-passive suffix” **-ti* for Proto-Turkic, suggesting that the syncretism was already present in the proto-

language, and the further diachrony of the suffix therefore remains obscure. Outside of Eurasia it has only been possible to find one case of causative-passive syncretism for which a causative origin can be established with some certainty. It has been repeatedly observed that the causative suffix *-tit* in the Eskimo language West Greenlandic (NA) seems to have developed a passive suffix rather recently (Fortescue 1984: 265; Haspelmath 1990: 48; Schikowski 2009: 7). This development is shown in Table 7.44 (Underhill 1980: 475f.).

Table 7.44: CAUS-PASS syncretism of CAUS origin in West Greenlandic

| West Greenlandic | CAUS | → | PASS |
|------------------|------------------------|---|------------------------|
| <i>neri-tit-</i> | ‘to make sb. eat sth.’ | | ‘to be eaten [by sb.]’ |

Voice development from causative to passive is generally hypothesised to involve a “causative-reflexive” or “reflexive permissive-causative” intermediary stage whereby a causer lets itself be acted upon by another semantic participant, and subsequently loses its focus of attention until it eventually does not cause anymore (Underhill 1980: 476f.; Shibatani 1985: 840; Haspelmath 1990: 46f.; Yap & Iwasaki 1998; Yap & Ahn 2019; Zúñiga & Kittilä 2019: 226). In broader terms, the causative voice can be said to share “the feature of A-demotion with passives” (Malchukov 2017: 24).

7.5.3 From causative to applicative

Like the diachrony discussed in the previous section, the origin of causative-applicative syncretism has received considerable attention in the literature (e.g. Shibatani & Pardeshi 2001: 166ff.; 2002: 116ff.; Peterson 2007: 64ff.; Malchukov 2016: 403ff.; 2017: 13ff.). However, as noted by Zúñiga & Kittilä (2019: 236), “the border between causativization and applicativization is porous” and it can therefore be difficult to determine the origin of causative-applicative syncretism. Indeed, it can sometimes be difficult to distinguish between a causative and an applicative function in the first place, as certain situations can be conceptualised in different manners. For the sake of illustration, Austin (2005: 14, 17) treats the verb *iti-nti* ‘to bring sth. back’ (cf. *iti* ‘to return’) in the Northern Pama-Nyungan language Kalkatungu as causative, but the verb *gambira-ma-* ‘to bring sth. back’ (cf. *gambira-* ‘to return’) in the related language Margany (both AU) as applicative. Here it seems that Austin conceptualises the verbs ‘to make sth. return’ and ‘to return with sth.’, respectively. In any case, causative-applicative syncretism

is often believed to generally have a causative origin (especially following Shibatani & Pardeshi 2001; 2002), although the possibility of an applicative origin is sometimes acknowledged as well (Wise 1990; Payne 2002; Guillaume & Rose 2010; Malchukov 2017). Causative-applicative syncretism of causative origin is discussed in this section, while causative-applicative syncretism of applicative origin is described in §7.6.3.

Shibatani & Pardeshi (2001; 2002: 118) have famously argued for a causative origin of causative-applicative syncretism suggesting that “the applicative meanings of comitative, instrumental, and benefactive forms be connected to sociative causatives”. For instance, “[t]he comitative meanings of ‘I walk with him’ and ‘I play with her’ are derivable from ‘I make him walk by walking with him’ and ‘I make her play by playing with her’” (Shibatani & Pardeshi 2002: 118). Likewise, “[i]f someone causes a knife to cut the meat, he/she is in effect cutting the meat with a knife, because a knife cannot cut meat independently from the causer agent who actually uses it” (Shibatani & Pardeshi 2002: 119). In support of their argument, Shibatani & Pardeshi cite examples of causative-applicative syncretism from sixteen geographically diverse languages (representing sixteen different genera). The simple explanation proposed by Shibatani & Pardeshi is certainly plausible in many languages (and will be considered again at the end of this section), yet it is important to note that there is actually little historical and comparative data available for most of the languages they discuss. Indeed, some of the authors of the sources cited by Shibatani & Pardeshi do not address the issue of diachrony at all, including Saunders & Davis (1982) on the Salishan language Bella Coola (NA), Plungian (1993: 392) on the Dogon language Tommo So (AF), and Ichihashi-Nakayama (1996) on the Yuman language Hualapai (NA). Consequently, in many cases it cannot be confirmed with certainty how the causative-applicative syncretism in the languages arose diachronically, and alternative origins cannot automatically be dismissed. As already mentioned above and further discussed in the next section, the opposite development seems to have taken place in some languages, even in cases involving sociativity. Consequently, the diachrony of the causative-applicative syncretism in each of the remaining thirteen languages mentioned by Shibatani & Pardeshi (2002) is revisited here.

Some authors of the sources cited by Shibatani & Pardeshi (2002) explicitly state that the origin of causative-applicative syncretism in a given language may not necessarily be causative. Fleck (2002: 396) argues that “we must conclude that [the causative-applicative suffix] *ua* was not specifically a causativizer, but a more general transitivizer” in the Panoan language Matsés (SA). Likewise, Ste-

fanowitsch (2002: 344) calls the causative-applicative suffix *-ba* in the Cariban language Akawaio (SA) a “general transitivizer”. In turn, Queixalós (2002) suggests that the causative-applicative prefix *ka-* in the Guahiban language Sikuaní (SA) has an applicative origin (see Table 7.49 on page 234). Vázquez Soto (2002: 228) does not provide any concrete diachronic evidence for the origin of causative-applicative syncretism in the Corachol language Cora (NA) but presupposes a causative origin in the spirit of Shibatani & Pardeshi (2002) themselves (the studies are published in the same volume). The origins of causative-applicative syncretism in the Kartvelian language Svan (EA) and the Pama-Nyungan language Yidiny (AU) also remain obscure (see Kulikov 1993 and Austin 2005, respectively). Furthermore, the origin of the causative-applicative suffix *-kan* mentioned by Shibatani & Pardeshi (2002) in relation to the Malayo-Sumbawan language Malay (PN) has been the topic of much debate. Kikusawa (2012: 438) believes it to be descended from an “oblique preposition **kən*, which introduced adjunct (or, peripheral) elements of the event described in a sentence”. Kikusawa (2012: 439) proposes that the preposition has grammaticalised in Proto-Malay(ic), in which the suffix **-kən* appears to have had both applicative and causative uses. The chronology of the individual functions remains unclear.

There are stronger indications of a causative origin for causative-applicative syncretism in the remaining six languages discussed by Shibatani & Pardeshi (2002). For instance, the suffix *-aw* in the Indo-Aryan language Marathi and the suffix *-(sa)se* in Japanese (both EA) generally have a causative function, but also sociative applicative functions in certain restricted contexts (Shibatani & Pardeshi 2002: 96ff.). The more restricted applicative function of these suffixes seems to indicate a later development from the causative function. The same can be said for the Muskogean language Creek (NA), for Huallaga Quechua (SA) and for Kolyma Yukaghir (EA), in which the applicative function of the otherwise causative suffixes *-ic* (Martin 2011: 225), *-chi* (Weber 1989: 163), and *-š* (Maslova 2003: 215), respectively, is barely productive. It is, however, worth keeping in mind that the high synchronic productivity of a certain function does not necessarily entail that it represents a diachronic origin, as already noted in the beginning of this chapter. The best evidence for causative-applicative syncretism of causative origin mentioned by Shibatani & Pardeshi (2002) comes from the Bantu language Kinyarwanda (AF) in which the causative-applicative suffix *-ish* can be traced back to the Proto-Bantu causative suffix **-ici* which contrasted with a general applicative suffix **-id* (Meeussen 1967; Bastin 1986; Schadeberg 2003). For an extensive investigation of the syncretism in Kinyarwanda, see Jerro (2017). A similar development has also taken place in the related Namibian Fwe

language and “other Bantu Botatwe languages” (Gunnink 2018: 216ff.; see also Peterson 2007: 66 on Shona and Creissels 2016: 90 on Tswana). The development from causative to applicative in Kinyarwanda (Jerro 2017: 6f.) and Namibian Fwe (Gunnink 2018: 216f.) is illustrated in Table 7.45. These languages retain reflexes of the Proto-Bantu suffix **-id* that continue to be used for expressing applicativity more broadly.

Table 7.45: CAUS-APPL syncretism of APPL origin in Bantu languages

| P.-B. | <i>*-ici</i> | CAUS | → | APPL | |
|-------|--------------|------------------|--------------------------|-----------------|-------------------------|
| Kiny. | <i>-ish</i> | <i>ndik-ish-</i> | ‘to make sb. write sth.’ | <i>kat-ish-</i> | ‘to cut sth. with sth.’ |
| Fwe | <i>-is</i> | <i>kur-is-</i> | ‘to make sb. sweep sth.’ | <i>fund-is-</i> | ‘to cut sth. with sth.’ |

Guillaume & Rose (2010: 391) argue that six languages from four South American genera not covered by Shibatani & Pardeshi (2002) also feature causative affixes which in some contexts can have a sociative applicative function: the prefix *mo-* in the Tupi-Guaraní language Guaraní, the prefix *im-* in the Bolivia-Parana Arawakan language Trinitario, the suffix *-aka(g)* in the Pre-Andine Arawakan languages Asheninka and Caquinte, and the suffix *-nopĩ* in the Cariban language Kari’ña and the suffixes *-nîpî* and *-pa* in Makushi of the same genus. However, it is unclear how common the applicative function is in Guaraní and Trinitario – only one example is provided by Velázquez-Castillo (2002: 522) for the former language and by Wise (1990: 98) for the latter language. Note also that Proto-Tupi-Guaraní seems to have had a separate “comitative causative” prefix **(e)ro-* (Jensen 1998: 593) which is, for example, retained (*elo-*) and characteristic for causative-applicative syncretism in Emerillon (Rose 2003). The Asheninka and Caquinte suffixes can be traced to the Proto-Arawakan suffix **-k^hak^h* for which Wise (1990: 109) reconstructs an original reciprocal function (§7.2.1). Wise (1990: 104, 110) additionally shows that the suffix also has developed causative and comitative applicative functions in a few other neighbouring languages, and ultimately argues that the causative function evolved from the comitative applicative function and not vice versa (§7.6.3). The Cariban languages appear to be better candidates for causative-applicative syncretism of causative origin in light of Gildea’s (2015: 6ff.) reconstruction of three causative suffixes with no apparent applicative functions for Proto-Carib: **-po* (cf. Makushi *-pa*), **-nîpî* (cf. Makushi *-nîpî*), and **-nôpî* (cf. Kari’ña *-nopĩ*). The presumed development from causative to applicative in these languages is illustrated by examples from Makushi in Table 7.46 (Abbott 1991: 41, 125f.).

Table 7.46: CAUS-APPL syncretism of APPL origin in Makushi

| | | | | | |
|----------|---------------|--------------------|---------------------|--------------------|----------------------|
| P.-Carib | <i>*-po</i> | CAUS | → | APPL | |
| Makushi | <i>-pa</i> | <i>we'nun-pa</i> | 'to make sb. sleep' | <i>manun-pa</i> | 'to dance with sb.' |
| | <i>-nîpî</i> | <i>ereuta-nîpî</i> | 'to sit sth. down' | <i>erepan-nîpî</i> | 'to arrive with sb.' |
| P.-Carib | <i>*-nîpi</i> | | | | |

Austin's (2005) investigation of causative-applicative syncretism among Australian languages is often cited in discussions on the diachrony of syncretism, yet is worth observing that Austin (2005: 29) strives to provide a "theoretical analysis of the observed patterns of transitivity in Australia, couched in terms of the framework of lexical mapping theory in Lexical Functional Grammar" based on synchronic data. The diachronic developments of the causative-applicative syncretism in the individual languages discussed by Austin remain largely understudied. Thus, the origins of the syncretism in the languages are considered unresolved for the time being. Nevertheless, see Table 7.47 for examples of the syncretism in some of the languages mentioned by Austin.

Table 7.47: CAUS-APPL syncretism in Pama-Nyungan languages

| CAUS | | APPL | | |
|-------------|-----------------------|--------------------|----------------------|----------------------|
| Diyari | <i>tharka-ipa-</i> | ‘to stand sth. up’ | <i>nandra-ipa-</i> | ‘to hit sb. for sb.’ |
| Pitta-Pitta | <i>yanthi-la-</i> | ‘to burn sth.’ | <i>wiya-la-</i> | ‘to laugh at sb.’ |
| Arabana-W. | <i>kaji-la-</i> | ‘to turn sth.’ | <i>wiya-la-</i> | ‘to laugh at sb.’ |
| M. Arrernte | <i>pwernke-lhile-</i> | ‘to split sth.’ | <i>therre-lhile-</i> | ‘to laugh at sb.’ |
| Kalkatungu | <i>ara-nti-</i> | ‘to insert sth.’ | <i>wani-nti-</i> | ‘to play with sb.’ |
| Wik-Mungkan | <i>ika-tha-</i> | ‘to split sth.’ | <i>kee’a-tha-</i> | ‘to play with sb.’ |
| Margany | <i>dhanggi-ma-</i> | ‘to drop sth.’ | <i>ngandhi-ma-</i> | ‘to talk to sb.’ |
| Gunggari | <i>banbu-ma-</i> | ‘to fell sth.’ | <i>ngalga-ma-</i> | ‘to talk to sb.’ |

Note that some of the suffixes illustrated in Table 7.47 barely have an applicative function which may point towards a causative origin. For instance, the applicative function of the suffix *-lhile* in Mparntwe Arrernte is only attested with two verbs (§4.3.1) and the applicative function of the suffix *-la* in Arabana-Wangkangurru is only attested with five verbs (Austin 2005: 11). By contrast, the

applicative function of the suffix *-la* in Pitta-Pitta appears to be rather productive, and the same is true for the Kalkatungu suffix *-nti* (Austin 2005: 12ff.).

Malchukov (2017: 12) suggests that a “reanalysis from a causative to a benefactive applicative construction is under way” facilitated by sociativity in the language isolate Seri (NA) characterised by various prefixes, including *a(h)-* and *ac(o)-*. While this development is certainly probable, it is difficult to confirm with certainty due to the little historical and comparative data currently available for the language. The same is true for the causative-applicative suffix *-l* in the Araucanian language Mapuche (or Mapudungun; SA) also mentioned by Malchukov (2017: 9). Additionally, Van Gysel (2018) has recently argued for causative-applicative of causative origin in the Chibchan language Pech (NA) characterised by the prefix *ũ-*, in the Madang language Bongu (PN) characterised by the suffix *-t(e)*, and in the Edoid language Engenni (AF) characterised by the suffix *-(e)se*. Unfortunately, there are very little data available on the former two languages, and it is difficult to determine not only the extent of the syncretism but also the chronology of the functions involved. In turn, Van Gysel tentatively speculates that the Engenni prefix may be diachronically related to the Proto-Bantu **-is* discussed further above in which case the causative-applicative syncretism in the language would appear to be of causative origin (Hyman 2007).

As many of the languages discussed above show, there is little doubt that applicativity has a close relationship to sociative causativity, prompting Shibatani & Pardeshi (2002: 121) to conclude that i) “the causative/applicative syncretism is seen when there is a sociative reading associated with the causative constriction” and that ii) the split occurs at an advanced stage of grammaticalization/lexicalization”. The split in question represents “a strong tendency [...] to avoid the morphological causativization of active verbs [e.g., ‘to run’, ‘to play’, ‘to sit’], and to assign an applicative function to the causative morphemes found with active verbs” (Shibatani & Pardeshi 2002: 118). It is not entirely clear what verbs qualify as “active” though; for instance, they treat the verb ‘to stand’ variously as inactive and active (Shibatani & Pardeshi 2002: 116, 119). In any case, the tendency is essentially a logical consequence of the fact that a causer can actively engage in such actions alongside the causee, and the explanation thus seems plausible, especially for the rise of comitative and instrumental applicativity as already briefly illustrated in the beginning of this section (e.g. ‘to make someone walk by walking with the person’ or ‘to cut something by using an instrument’). With regard to benefactive applicativity, Malchukov (2017: 11f.) emphasises the assistive nature of sociative causativity, e.g. ‘to help someone sew a skirt’ → ‘to sew a skirt for someone’. These explanations apply primarily to the rise of syncretism between

causativity and comitative/instrumental/benefactive applicativity but not necessarily to other types of applicativity, e.g. locative. However, this does not pose a problem for the time being, because it currently appears that no language features causative-applicative syncretism of causative origin involving applicativity which is not comitative, instrumental, or benefactive. Indeed, it has only been possible to find two languages featuring voice marking with both a causative function and a locative applicative function, the Atlantic language Temne (AF) and the Mixe-Zoque language Ayutla Mixe (NA), but in both languages this syncretism appears to be of applicative origin (or, perhaps, the result of coincidental phonological convergence in the latter case), as further discussed in §7.6.3.

7.6 Applicative origin

Voice syncretism of applicative origin has received minimal attention in the literature, yet there appears to be some evidence for causative-applicative syncretism of applicative origin (§7.6.3). By contrast, there are currently only weak indications of an applicative origin for applicative-reciprocal and applicative-antipassive syncretism, as discussed in the next two sections.

7.6.1 From applicative to reciprocal

Diachronic development from reciprocal to applicative has been attested in a few languages (§7.2.6), whereas there is little solid evidence for the opposite development, though vague hints of such development can be found among Eskimo-Aleut languages (NA). Fortescue (2007: 841) argues that the Proto-Eskimo suffix **-utə* has applicative and reciprocal functions in all Eskimo languages, but cognates thereof only have the former function in the more distantly related Aleut languages (§7.2.4). Furthermore, reflexes of the suffix also have a sociative function in Eskimo languages, for instance in West Greenlandic (e.g. *kavvisur* ‘to drink coffee’ ↔ *kavvisu-up* ‘to drink coffee together’, Fortescue 2007: 827). The diachrony of the sociative function is not clear, but the distribution of reciprocal and applicative functions among the Eskimo-Aleut languages suggests that the reciprocal function evolved following the applicative function. As noted in §7.2.6, comitative applicativity and sociativity are rather similar in terms of semantics while reciprocity is related to sociativity in terms of plurality of participants. Thus, it can tentatively be hypothesised that the reciprocal function of Proto-Eskimo **-utə* evolved from the applicative function facilitated by sociativity, though more research is needed to confirm this scenario.

7.6.2 From applicative to antipassive

The applicative-reciprocal suffix **-utə* in Proto-Eskimo mentioned in the previous section is known to have developed an antipassive function in at least one descendant language, Central Alaskan Yupik (NA). The origin of applicative-antipassive syncretism in this language can thus be considered applicative, at least partially (§7.2.4). It has hitherto not been possible to find evidence for a similar development in any other language.

7.6.3 From applicative to causative

Causative-applicative syncretism is generally believed to evolve from (sociative) causativity (§7.5.3), although the possibility of an opposite development is sporadically acknowledged in the literature. An early discussion of causative-applicative syncretism of applicative origin is provided by Wise (1990: 110) who argues that the suffix *-akag* (or cognate variants thereof) found in all Pre-Andine Arawakan languages derives from the Proto-Arawakan reciprocal suffix **-k^hak^h* and that “the meaning changed from reciprocal to comitative to causative”. This view is adopted by Payne (2002: 501ff.) who further explains that the suffix seems to have replaced the causative suffix **-t^ha* among the languages. While this causative suffix and its original function is retained in a large number of modern Arawakan languages (Wise 1990: 103), sporadic remnants of the suffix are “now devoid of a syntactic function” in the Pre-Andine Arawakan languages (Payne 2002: 501). The presumed development among the Pre-Andine Arawakan languages is illustrated by examples from Asheninka in Table 7.48 (Payne 2002: 491f., 501). Note that the suffix *-aka(g)* in Asheninka has retained a reciprocal function when preceded by the suffix *-aw* (e.g. *chek-aw-aka* ‘to cut e.o.’) which itself reflects the Proto-Arawakan reflexive suffix **-wa* (Wise 1990: 109f.). In Ashéninka Perené the latter suffix (cf. *-av*) seems to express reciprocity on its own (Mihas 2010: 130). Interestingly, Payne (2002: 488, 504) even suggests that another causative suffix in Asheninka with the variant forms *omin-/ogi-/ow-/o-* (e.g. *tyag-* ‘to fall over’ ↔ *o-tyag-* ‘to fell sth.’) also has a comitative applicative origin derived from the verb *omintha* (the *-tha* element is an incorporated classifier for ‘word, language’) which is used for “deciding or encouraging someone to ACCOMPANY the speaker somewhere”, e.g. Nomatsiguenga *ominiC-* ‘to take along with, cause to accompany’. Nevertheless, it seems that this prefix does not retain a synchronic applicative function in Asheninka and it is therefore not discussed further here.

Table 7.48: CAUS-APPL syncretism of APPL origin in Asheninka

| Proto-Arawakan | *-k ^h ak ^h | APPL | → CAUS |
|----------------|----------------------------------|---------------------|-----------------------|
| Asheninka | *-aka(g) atait-aka- | ‘to climb with sb.’ | → ‘to make sb. climb’ |

Guillaume & Rose (2010) argue that the prefix *him-* in the Arawakan language Yine (SA) – which may be related to the *omin-*like prefixes in Asheninka and Nomatsiguenga (Hanson 2010: 195) – also represents causative-applicative syncretism of applicative origin. The comitative applicative function of the Yine prefix is very productive. However, it is not clear if it has yet developed a proper causative function, as Hanson (2010: 276) only provides two examples with “causative overtones”: *him-hapoka-* ‘to arrive with sth.’ (‘to make sth. arrive’) and *him-satoka-* ‘to return with sth.’ (‘to make sth. return’). These examples illustrate the occasional problem of distinguishing between causativity and applicativity discussed in §7.5.3. Similar cases can be found in other languages mentioned by Guillaume & Rose (2010), including the language isolate Movima, the Arauan languages Jarawara and Paumari (all three SA), as well as Yukatek Maya (NA) also mentioned by Malchukov (2017: 12f.) and Zúñiga & Kittilä (2019: 236). In these languages there is clear applicative voice marking (*-te*, *ka-/wa-*, *va-/vi-*, and *t-*, respectively), which in some instances has an ambiguous causative reading. Consider, for example, Yukatek Maya *áalkab-t-* ‘to run behind sb.’ or ‘to make sb. run’ (cf. *áalkab-* ‘to run’) in relation to causative *áalkab-ans-* ‘to make sb. run’ and applicative *háakchek’-t-* ‘to slip on sth.’ (cf. *háakchek’-* ‘to slip’, Lehmann 2015: 1452, 1457f.). Further research is needed to determine the extent and productivity of such causative functions in these languages, but it is possible that they represent an early stage in the development of causative-applicative syncretism.

Queixalós (2002) favours an applicative origin for the causative-applicative syncretism characterised by the prefix *ka-* in the Guahiban language Sikuani (SA), as already briefly mentioned in §7.5.3. More specifically, Queixalós (2002: 320) speculates that the prefix “could be etymologically related to the word for ‘hand’” and that “[o]ne of its possible senses – presumably the most basic one – is instrumental applicative”. As described by Guillaume & Rose (2010: 392), synchronically the prefix *ka-* in Sikuani “can have, on the one hand, a plain applicative function, with no hint of causation, promoting for instance an instrument into O function” and “[o]n the other hand, it can convey both comitative and causative meaning”. If the etymology proposed by Queixalós (2002) can be confirmed, the diachronic scenario illustrated in Table 7.49 seems probable.

Table 7.49: CAUS-APPL syncretism of APPL origin in Sikuani

| ‘hand’ APPL | | → CAUS |
|-------------|---|--|
| <i>ka-</i> | <i>ka-nawiata</i> ‘to go back with sb.’ (or ‘to make sb. go back’) | <i>ka-pitsapa</i> ‘to make sb. go out’ |

Van Gysel (2018) has argued for an applicative origin of causative-applicative syncretism in three languages spoken outside the Americas unlike the other languages covered so far in this section: the Northern Luzon language Pangasinan, the Oceanic language Trukese (both PN), and the Atlantic language Temne (AF). The purported causative-applicative syncretism in Pangasinan is characterised by the prefix *pañgi-*, but unfortunately the data available for this prefix are very scant and seemingly restricted to a single example: *pañgi-tilák* ‘[I’ll] have [Juan] leave [the rice]’. Benton (1971: 140) argues that the prefix in question is “[p]robably the least frequently encountered instrumental affix”. Consequently, it is difficult to determine the nature and productivity of its causative and applicative functions. By contrast, in Trukese the suffix *-geni* has a clear applicative function as well as a permissive causative function with at least two verbs (Dyen 1965: 52f.). The suffix derives from the verb (*n*)*geni* ‘to give’ (see also Goodenough & Sugita 1980: 268) which Van Gysel (2018) considers an indication for a applicative origin. This presumed development is illustrated in Table 7.50 (Dyen 1965: 53). Nevertheless, it is worth noting that the verb ‘to give’ also is known to grammaticalise a causative function, as in some Tungusic languages (§4.3.2). Thus, the voice development proposed here for the Trukese suffix *-geni* is somewhat tentative, and more research into the chronology of its functions is needed to confirm the scenario.

Table 7.50: CAUS-APPL syncretism of APPL origin in Trukese

| ‘to give’ (<i>n</i>) <i>geni</i> APPL | | → CAUS |
|--|--|---|
| <i>-geni</i> | <i>kupii-geni</i> ‘to break sth. for sb.’ <i>jeniwin-geni</i> ‘to return sth. to sb.’ | <i>kkëwyy-geni</i> ‘to let sb. stop’ <i>jejiwen-geni</i> ‘to let sb. lie down’ |

Temne is also a candidate for causative-applicative syncretism of applicative origin, although the syncretism remains very limited in the language. As described by Kanu (2012: 122ff., 167ff.), Temne features two productive applicative suffixes, *-(ə)r* and *-ɔ̃* that predominantly have a locative and benefactive function, respectively. However, both suffixes can also have certain “idiosyncratic meanings” with some verbs, one of which appears to be causative (Kanu 2012: 136, 184), though Kanu only provides one causative example of the suffix *-(ə)r* and two causative examples of the suffix *-ɔ̃*. In any case, the suffixes appear to be related to the synchronic prepositions *rò* ‘to, from, in, on’ and *tà* ‘for’, respectively (Kanu 2012: 83; cf. Hyman 2007: 156) which – together with the prominent applicative use of the suffixes – is a strong indicator of an applicative origin. These developments are illustrated in Table 7.51 (Kanu 2012: 122, 135f., 176, 184). The other applicative example of the suffix *-ɔ̃* provided by Kanu but not shown in this table is *sákəth-ɔ̃* ‘to make sth. shift to sth.’ Moreover, note that the last vowel of the verb *tám-ɔ̃* ‘to stand up’ is replaced by *-ər* in the causative. This phenomenon can also be seen among some verbs in which the suffix has an applicative function (cf. *báns-ɔ̃* ‘to be angry’ ↔ *bans-ər* ‘to be angry at sb.’) but not all (cf. *yí-ɔ̃* ‘to sit’, Kanu 2012: 122, 132).

Table 7.51: CAUS-APPL syncretism of APPL origin in Temne

| <i>rò</i> ‘on’ | APPL | → | CAUS |
|-----------------|-------------------------------------|---|--------------------------------------|
| <i>-(ə)r</i> | <i>yí-ɔ̃-ər</i> ‘to sit on sth.’ | | <i>tám-ər</i> ‘to make sb. stand up’ |
| <i>-ɔ̃</i> | <i>wáy-ɔ̃</i> ‘to buy sth. for sb.’ | | <i>bék-ɔ̃</i> ‘to make sb. arrive’ |
| <i>tà</i> ‘for’ | | | |

The Mixe-Zoque language Ayutla Mixe (NA) features causative-applicative syncretism similar to that in Temne, but the diachronic development of the syncretism in this language is more uncertain. In Ayutla Mixe the syncretism in question is characterised by the prefix *a-*, yet Romero-Méndez (2008) appears to treat the prefix as two separate prefixes and does not address the similarity between them. On the one hand, Romero-Méndez (2008: 97, 401f.) states that one prefix *a-* is a “derivational prefix that very often has a causative meaning” which generally derives verbs from adjectives indicating change of state, but also “prefixes to verbs” (e.g. *tsě’ěk* ‘to be scared’ ↔ *a-tsě’ěk* ‘to scare sb.’). On the other hand, Romero-Méndez (2008: 381ff., 602) argues that another prefix *a-* diachronically derives from the word *ää* ‘mouth’ and has “a rather abstract meaning, in-

dicating the trajectory of the action”, mostly ‘in’, ‘into’, or ‘inside’ a location (e.g. *tem-* ‘to roll’ ↔ *a-tem* ‘to roll into sth.’). It is unclear if the resemblance between the two prefixes *a-* is the result of coincidental phonological resemblance or if the causative function evolved from the applicative function.

The boundaries between (sociative) causativity and applicativity can be rather fluid and this helps explaining voice development from causative to applicative (§7.5.3). There is no reason to assume that a voice development in the opposite direction cannot be explained in the same terms, only in a reverse manner. Indeed, the applicative voices described for most of the languages in this section are similar to those discussed in §7.5.3, being instrumental, comitative, and/or benefactive in nature. In fact, it seems that even the locative applicative suffix *-(ə)r* in Temne occasionally has benefactive or benefactive-like functions (e.g. *lénj* ‘to sing’ ↔ *lénj-ər* ‘to sing to sb.’ and *bóyà* ‘to donate sth.’ ↔ *bóyà-r* ‘to donate sth. to sb.’), not to mention a malefactive function with quite a few verbs (Kanu 2012: 131ff.). Furthermore, the same suffix often indicates that an action is done ‘in the presence’ of someone which is reminiscent of a sociative function (Kanu 2012: 130). Thus, the evolution of causative-applicative syncretism of applicative origin essentially follows a reverse version of the developmental path from causative to applicative, e.g. (instrumental) ‘to chop sth. with sth.’ → ‘to make sth. chop sth.’ → ‘to make sb. chop sth.’, (comitative) ‘to run with sb.’ → ‘to make sb. run by running with the person’ → ‘to make sb. run,’ (benefactive) ‘to bake sth. for sb.’ → ‘to make sb. bake sth. by assisting the person’ → ‘to make sb. bake sth.’

7.7 Overview

As demonstrated in this chapter, the diachrony of voice syncretism is an intricate and often unpredictable phenomenon which can seemingly follow a multitude of developmental paths. The various paths discussed in this chapter and their inter-relationships are visualised in Figure 7.4. Dotted arrows indicate diachronic development for which evidence remains cross-linguistically scarce and/or is deemed tentative, while solid arrows indicate development for which there is more evidence available. Showing only the seven voices of focus in this book, the figure represents a somewhat simplified diachronic overview of voice syncretism. As mentioned in the beginning of this chapter and suggested sporadically in the previous sections, many diachronic developments of voice syncretism might be associated with various phenomena semantically related to one voice or another (e.g. plurality of relations; §7.2) and specific bridging contexts (cf. Heine & Kuteva 2007) which are excluded in Figure 7.4. The reciprocal voice is placed at the cen-

tre of the figure because it appears to be the only voice which can be linked diachronically to each of the six other voices in one way or another. These links are discussed further at the end of this section. By contrast, the reflexive, anticausative, passive, and causative voices are linked to four other voices each, and the applicative and antipassive voices only to three other voices each.

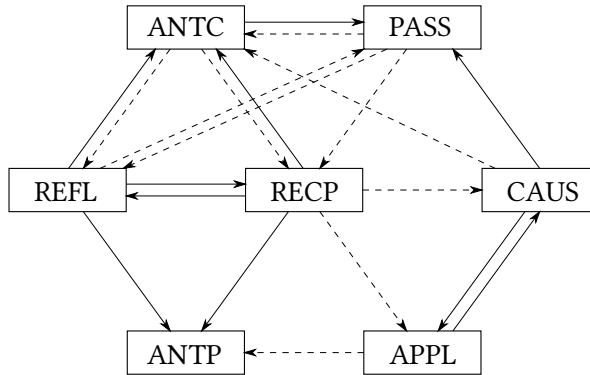


Figure 7.4: Overview of the diachrony of voice syncretism

Figure 7.4 indicates that several developmental paths are potentially bidirectional, including paths that have traditionally been considered unidirectional in the literature. For instance, although there is undoubtedly clear evidence for a diachronic development from reflexive to anticausative to passive in some languages (§7.1), voice syncretism in other languages has seemingly developed in the opposite direction: from anticausative to reflexive in Hittite (§7.3.1), from passive to anticausative in Vedic Sanskrit and the Tungusic language Evenki (§7.4.3), and from passive directly to reflexive in the Lowland East Cushitic language Ts’amakko (§7.4.1). Admittedly, evidence for these alternative scenarios is currently limited to a few isolated languages, yet the possibility of bidirectional development on a larger scale is here kept open to encourage more research into the matter. Bidirectional development between the causative and applicative voices has previously been discussed notably by Malchukov (2015; 2016; 2017: 24) who has designed a semantic map of “voice categories capturing selective similarities between individual categories” reproduced in Figure 7.5. Not only does this semantic map show a bidirectional connection between the causative and applicative voices, it also connects the causative voice unidirectionally to the passive voice and the applicative voice unidirectionally to the antipassive voice. There are thus clear similarities between Malchukov’s semantic map of voice similar-

ities on the one hand and Figure 7.4 showing the diachronic relations between different voices on the other hand. Observe also that neither the semantic map nor Figure 7.4 propose any directionality between the passive and antipassive voices. Indeed, there is currently no good evidence for neither a development from passive to antipassive nor vice versa in any language.

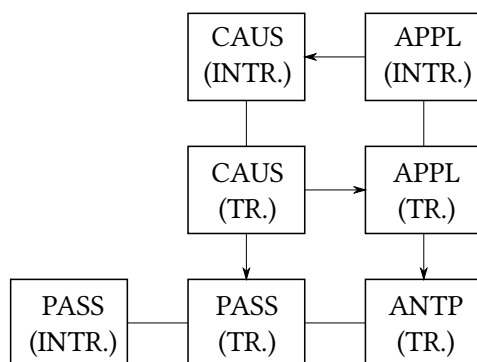


Figure 7.5: Malchukov's (2017) semantic map of voice categories

The twenty developmental paths underlying Figure 7.4 are listed in Table 7.52. The upper part of the table shows unidirectional paths, while the lower part of the table shows bidirectional paths. The table also provides an overview of the various evidence discussed for the paths in this chapter. The language families, genera, and languages ("languoids") included in the table are intended to represent good candidates for the respective diachronic developments in the light of currently available data. Consequently, languoids for which only highly tentative evidence for a given development has been discussed are not featured in Table 7.52. It is hoped that future research and additional data will lead to an expansion or reduction of languoids in the table. The functional explanations for the various developments in the table are diverse, and it is hardly feasible to subsume all the explanations discussed in this chapter under one notion. It is, however, worth noting that eight – or almost half – of the twenty developmental paths in the table involve reciprocity in one way or another, and in some of these cases the diachronic developments in question are jointly facilitated by functions closely associated with reciprocity, including sociativity and/or comitativity (Nedjalkov 2007a) and/or co-participation (Creissels & Noguier-Voisin 2008) which can be subsumed under the notion of plurality of relations (§7.2). This is notably the case for developments from reciprocal to antipassive (§7.2.4), causative (§7.2.5), and applicative (§7.2.6) in some languages. Nevertheless, in

Table 7.52: Evidence for the diachrony of voice syncretism

| Path | | Linguoids |
|------|--------|---|
| REFL | → ANTP | Indo-European, Nunggubuyu, Cariban, Turkic, Iroquoian |
| RECP | → ANTP | Bantu, Oceanic, Turkic, Nunggubuyu, Central Alaskan Yupik |
| RECP | → CAUS | Yine, Khakas |
| RECP | → APPL | Bantu, Turkic |
| PASS | → RECP | Highland East Cushitic |
| CAUS | → ANTC | Korean, Evenki |
| CAUS | → PASS | Korean, Tungusic, Mongolian, Finno-Ugric, West Greenlandic |
| APPL | → ANTP | Central Alaskan Yupik |
| REFL | → RECP | Indo-European, Nilotic, Dogon, Hup, Jamul Tiipay, Huasteca Nahuatl, Emerillon |
| RECP | → REFL | Oceanic, Tariana, Urubú-Ka'apor, Gunwinyguan, Tuvan |
| REFL | → ANTC | Indo-European, Nivkh, Nunggubuyu, Jamul Tiipay, Huasteca Nahuatl, Paresi-Haliti |
| ANTC | → REFL | Hittite |
| REFL | → PASS | (Indo-European) |
| PASS | → REFL | Ts'amakko |
| RECP | → ANTC | Bantu, Turkic, Ngalakan |
| ANTC | → RECP | Hittite |
| ANTC | → PASS | Indo-European, Korean |
| PASS | → ANTC | Evenki, Vedic Sanskrit |
| CAUS | → APPL | Bantu, Cariban |
| APPL | → CAUS | Asheninka, Sikuani, Trukese, Temne |

7 Diachrony of voice syncretism

other cases, the semantics of reciprocity itself are sufficiently similar to those of other voices to allow for voice syncretism to evolve, as in the bidirectional developments of reflexive-reciprocal (§7.1.1, §7.2.1) and reciprocal-anticausative syncretism (§7.2.2, §7.3.2). Thus, no attempt is here made to unify the various explanations for voice syncretism of reciprocal origin – nor of any other voice origin for that matter.

8 Conclusion

As mentioned in Chapter 1, previous investigations of voice syncretism have been sporadic in the literature and implicit in nature, and a general cross-linguistic picture of the phenomenon has so far been lacking (Malchukov 2017: 3f.). The main goal of this book has been to fill this gap by providing the first systematic typological investigation of syncretism between passive, antipassive, reflexive, reciprocal, anticausative, causative, and applicative verbal voice marking based on a survey of 222 languages (see Appendix A). This final chapter provides a summary and overview of the main findings of the previous chapters (§8.1) before addressing prospects for further research (§8.2).

8.1 Summary and main findings

Chapter 2 was dedicated to the definitions of the seven voices of focus in the book. Existing voice definitions commonly rely on certain notions like an argument-adjunct distinction, transitivity, grammatical roles and an active voice that are intuitively clear but notoriously difficult to establish as comparative concepts. Rather than attempting to redefine such notions once again (as has often been done in the past), the notions have been avoided altogether in this book. Instead, Chapter 2 proposed a new approach to voice definition based on a comparison between two clausal constructions (i.e. diatheses) and their formal verbal marking in addition to their numbers of semantic participants and the semantic roles of these. It was demonstrated in the chapter that these criteria alone suffice to define passives, antipassives, reflexives, reciprocals, anticausatives, causatives, and applicatives for use in a typological investigation of voice syncretism. Given their few criteria and wide scopes, the definitions can potentially be employed in future cross-linguistic research pertaining not only to voice syncretism but also to other typological aspects of voice.

Next, Chapter 3 gave an overview of previous research on voice syncretism, recognising two main approaches in the literature: one with a semantic core meaning as its point of reference in the investigation of voices and their syncretism, and another with formal marking as its point of reference. The former

approach has been common in studies of the infamous middle voice where only voices believed to involve some kind of subject affectedness (e.g. Klaiman 1991) have been in focus, notably the reflexive, reciprocal, anticausative and passive voices. By contrast, the latter approach is essentially unrestricted in its semantic scope due to its focus on formal marking and therefore makes it suitable for the exploration of voice syncretism, for which reason it has been adopted in this book. In practice, this approach allows individual markers to be inspected with regard to their full range of semantic functions, and only markers that feature one or more functions qualifying as one of the seven voices of focus in this book have been further examined in terms of voice syncretism. Chapter 3 also established three types of voice syncretism based on resemblance in voice marking. Type 1 syncretism denotes full resemblance in voice marking (e.g. Gurr-Goni reflexive-reciprocal *-yi*: *bu-yi* ‘to hit self’ or ‘to hit e.o.’, Green 1995: 214), type 2 syncretism denotes partial resemblance in voice marking (e.g. Assiniboine applicative *ki*- and reciprocal *kic^hi*:- *ki-yúk^hq* ‘to make room for sb.’, *kic^hi-pažipa* ‘to poke e.o.’, Cumberland 2005: 263, 271), and type 3 syncretism denotes reverse resemblance in voice marking (e.g. Alambalak causative *hay*- and applicative *-hay*: *hay-ni* ‘to make sb. go’, *suh-hay* ‘to fall for the benefit of sb.’, Bruce 1979: 209, 250, 255). Type 1 syncretism can in turn be divided into two subtypes based on whether the full resemblance in question is unconditioned (like in Gurr-Goni above) or conditioned (for instance, in Sandawe causative and applicative voice marking is only identical, *-kw*, before a vowel: *mântshà-kw-é* ‘to make him eat sth.’ or ‘to eat sth. for his benefit’, Steeman 2012: 189). These types are not restricted to voice syncretism, but can be applied to the investigation of other kinds of syncretism as well.

Having defined voice and voice syncretism, Chapter 4 provided a systematic cross-linguistic synchronic investigation of simplex voice syncretism, denoting two voices sharing the same voice marking (e.g. reflexive-reciprocal syncretism). Given the seven voices of focus in this book, 21 patterns of such syncretism can logically be posited, and each of these patterns was covered by the chapter (see Table 4.1 on page 75). The patterns were approached and examined from the perspective of minimal syncretism, which means that voice marking was discussed in relation to two voices at a time, even if the marking in question happens to have additional voice functions. Nevertheless, for the sake of transparency, maximal syncretism – or the full range of functions – of any given voice marking was duly described as well. Prior research on simplex voice syncretism has tended to focus only on certain patterns of simplex voice syncretism, notably middle syncretism (involving the passive, reflexive, reciprocal, and/or anticausative voices),

yet Chapter 4 demonstrated that most of the 21 patterns mentioned above are attested in one or more language. In fact, only one pattern remains unattested altogether, applicative-anticausative syncretism, which is not particularly surprising considering the seemingly disparate functions of the applicative and anticausative functions: the former voice is generally associated with a reduction in semantic participants, while the latter voice is associated with an increase. However, other seemingly incongruous patterns were actually attested in the survey, for example causative-anticausative syncretism and passive-antipassive syncretism in four languages each. The attestations of such unexpected patterns suggest that disparity and incongruity defined in theory is not necessarily always reflected in practice.

Whereas Chapter 4 focused on simplex voice syncretism, Chapter 5 provided a cross-linguistic synchronic investigation of complex voice syncretism, which refers to more than two voices sharing the same voice marking. Unlike the previous chapter, this chapter approached voice syncretism from the perspective of maximal syncretism, looking at the full range of voice functions of any given voice marking. Given the seven voices of focus in this book, 99 patterns of such syncretism can logically be posited, but only seventeen of these were actually attested in the survey (see Table 5.1 on page 127), leaving 82 patterns unattested altogether. Twelve of the seventeen patterns involve three voices (e.g. reflexive-reciprocal-anticausative syncretism), four patterns involve four voices (e.g. anti-passive-reflexive-reciprocal-anticausative syncretism), while a single pattern involves five voices (i.e. passive-antipassive-reflexive-reciprocal-anticausative syncretism). The latter pattern has so far only been attested in the Permic languages Udmurt and Komi as well as in the Slavic language Russian (all three EA). It is hardly surprising that no complex patterns involving six or seven voices have been attested in the survey, as such patterns would entail a high degree of functional ambiguity. This is even true for the complex voice syncretism in Udmurt, Komi and Russian, yet in this unique case the context and the semantics of verbs apparently suffice to tell the voice meanings apart. Thus, it seems that the voice syncretism in these three languages currently represents the upper limit of how many voices might share the same voice marking.

Chapter 6 presented a statistical distributional overview of simplex and complex syncretism attested in the language sample preceded by brief discussions of the distribution of voices in general and voice marking dedicated to a single voice. 104 of the 222 languages in the sample (46.8 percent) were found to feature some kind of voice syncretism (see Table 6.1 on page 149), in the vast majority of cases type 1a syncretism. However, it is worth noting that 25 of these 104 languages

(24.0 percent) feature type 2 voice syncretism, and this type of syncretism thus seems to be more prevalent cross-linguistically than generally acknowledged. By contrast, type 1b and type 3 voice syncretism are rare, yet the attestations of these types in six languages each show that resemblance in voice marking can be an intricate phenomenon in its own right (see Table 6.8 and Table 6.9 on page 155). The reflexive voice was found to be more prone to be syncretic than the other six voices of focus in the book (see Table 6.11 on page 157 and Figure 6.1 on page 237) which indicates that the traditional attention given to the reflexive voice in discussions of syncretism is not unfounded (e.g. *Geniušienė* 1987). Individual patterns of voice syncretism were approached both from the perspective of minimal syncretism and from the perspective of maximal syncretism. The former discussion showed that middle syncretism is undoubtedly more prevalent cross-linguistically than other patterns, yet patterns of causative-applicative as well as causative-passive syncretism and not least patterns of antipassive syncretism are comparatively common as well (see Table 6.13 on page 159 and Figure 6.2 on page 168). Thus, it seems that patterns other than those associated with middle syncretism might deserve more attention (as also suggested by, e.g., *Malchukov* 2017 in relation to causative-applicative syncretism and by *Janic* 2010 in relation to antipassive syncretism), and it is not unlikely that they have been overlooked in many languages and genera outside the language sample employed in this book. In terms of maximal syncretism, only seven patterns were attested in more than five languages, six of which are simplex and only one pattern complex. All other patterns of maximal simplex and complex patterns have only been attested in less than a handful of languages (see Table 6.13 on page 159 and Table 6.16 on page 164). In terms of geography, it has proved difficult to make any broad generalisations about the macroareal distribution of voice syncretism due to the sporadic and limited attestations of most patterns. However, it can be noted that voice syncretism seems to be most prevalent in Australia and most diverse in North America, while it is least prevalent and least diverse in Papunesia (see Table 6.1 on page 149 and Table 6.14 on page 161).

Finally, Chapter 7 provided a diachronic investigation of voice syncretism, or more specifically an investigation of cases of syncretic voice marking for which it can be plausibly demonstrated that one voice function evolved prior to other voice functions. Given the seven voices of focus in this book, 42 directional paths of voice development can logically be posited. Plausible evidence was found and discussed for twenty of these paths (see Table 7.1 on page 171), several of which have received little or no prior treatment in the literature. Twelve of the twenty paths represent six bidirectional developments, some of which have tradition-

ally been considered unidirectional in the literature (e.g. reflexive-reciprocal syncretism of reflexive origin). Thus, the findings presented in the chapter indicate that the diachrony of many patterns of voice syncretism may be more complicated and unpredictable than previously believed (see Figure 7.4 on 237).

8.2 Prospects for further research

Having mapped the cross-linguistic and typological variation in the syncretism between passives, antipassives, reflexives, reciprocals, anticausatives, causatives, and applicatives, this book naturally invites for further research. Voice syncretism is a broad topic and this book has only touched upon certain aspects of the phenomenon, while other aspects have not been covered in detail. Most notably, syntactic aspects have only been mentioned sporadically, and potential correlations between voice syncretism and syntactic language-internal characteristics (e.g. morphosyntactic alignment, head and dependent marking, etc.) have not been discussed at all. Neither have relationships between voice syncretism and semantic verb classes (see, e.g., Malchukov 2015 and Wichmann 2015). Furthermore, as mentioned repeatedly in the previous chapters, individual voices are commonly associated with various additional semantic functions (e.g. reciprocals with sociativity and antipassives with aspect) which have not been covered systematically in this book for practical reasons due to their sheer numbers. As demonstrated in Chapter 7 on diachrony, some of these functions are clearly relevant to the evolution of voice syncretism in some languages, but the extent of their cross-linguistic relevance is yet to be determined more exactly. In other words, it remains unclear how widely applicable many of the proposed diachronic explanations are cross-linguistically due to the limited evidence available for many developmental paths and genera.

As hinted throughout the previous chapters, there are indications of certain diachronic developments in some languages (for instance in the form of synchronic distribution of functions) but without additional comparative and/or historical data it is difficult to confirm that such indications are valid. Moreover, some diachronic developments appear to be bidirectional, but it remains unclear what conditions the directionality. Say, why does reflexive voice marking develop a reciprocal function in some languages but reciprocal voice marking develop a reflexive function in others. Consider, for instance, the reflexive-reciprocal prefix *ze-* in the Tupi-Guaraní language Emerillon (SA) and the reflexive-reciprocal suffix *-nʔji* in the Gunwinyguan language Nunggubuyu (AU). The former affix reflects Proto-Tupi-Guaraní reflexive **je-* and has entirely replaced reciprocal **jo-*

(Jensen 1998), while the latter affix reflects Proto-Gunwinyguan reciprocal **-nci* and has almost entirely replaced reflexive **-yi* (Alpher et al. 2003). Furthermore, it remains unknown to what extent rare patterns of voice syncretism are the result of coincidental convergence or the result of more systematic (albeit infrequent) processes of development. Although various functional explanations can be – and have been – proposed for the rise of such patterns, evidence remains scarce and restricted to a few languages. One obvious place to look for more evidence would be among related languages through genus- or family-specific case studies. Case studies could also show if patterns of voice syncretism in individual languages reflect genus- or family-wide tendencies. Many of the languages with the most complex voice syncretism attested in this book belong to big and rather well-documented language families (e.g. Uto-Aztecan, Oto-Manguean, Iroquoian, Turkic, and of course Indo-European) and such studies should therefore be feasible. In turn, macroarea-specific case studies might turn up more evidence for tendencies in the geographic distribution of voice syncretism.

Voice syncretism is evidently a diverse and multifaceted phenomenon, and it is hoped that the findings and approach of this book can serve as inspiration and as a starting point for future typological exploration of the matter as well as for the investigation of other linguistic phenomena pertaining to voice and syncretism.

Appendix A

This appendix shows the language sample employed in the typological survey of voice syncretism presented in this book. The languages in the sample are listed alphabetically according to genus alongside macroarea and primary sources of data. The manner in which the language sample has been composed is described in §1.1 while the sources are discussed briefly in §1.2.

| Genus | Language | Primary source(s) |
|---|---------------------|------------------------------|
| AF Afro-As. ¹ – Berber | Ghomara | Mourigh (2015) |
| AF Afro-As. – Chadic – Biu-Mandara | Sakun | Thomas (2014) |
| AF Afro-As. – Chadic – East | Baraïn | Lovestrand (2012) |
| AF Afro-As. – Chadic – West | Goemai | Hellwig (2011) |
| AF Afro-As. – Cushitic – Central | Khimt’anga | Teshome (2015) |
| AF Afro-As. – Cushitic – H. East ² | Sidaama | Kawachi (2007) |
| AF Afro-As. – Cushitic – L. East ³ | Konso | Ongaye (2013) |
| AF Afro-As. – Omotic – Dizoid | Sheko | Hellenthal (2010) |
| AF Afro-As. – Omotic – North | Wolaytta | Wakasa (2008) |
| AF Afro-As. – Omotic – South | Hamar | Petrollino (2016) |
| AF Afro-As. – Semitic | Arabic ⁴ | Roset (2018) |
| NA Algic – Algonquian | Arapaho | Cowell & Moss Sr. (2008) |
| EA Altaic – Mongolic | Mongolian | Tserenpil & Kullmann (2008), |
| ... | ... | Janhunen (2012) |
| EA Altaic – Tungusic | Kilen | Zhang (2013) |
| EA Altaic – Turkic | Tatar | Zinnatullina (1969; 1993), |
| ... | ... | Burbiel (2018) |
| SA Arauan | Kulina | Dienst (2014) |
| SA Araucanian | Mapuche | Smeets (2008) |
| NA Arawakan – Caribbean | Garifuna | Haurholm-Larsen (2016) |
| SA Arawakan – Central | Paresi-Haliti | Brandão (2014) |

¹Afro-Asiatic

²Highland East

³Lowland East

⁴Darfur Arabic

Appendix A

| Genus | Language | Primary source(s) |
|--|-------------------------|--|
| SA Arawakan – Inland Northern | Tariana | Aikhenvald (2003) |
| SA Arawakan – Purus | Yine | Hanson (2010) |
| SA Arawakan – Wapishanan | Wapishana | dos Santos (2006) |
| EA Austro-As. ⁵ – M.-K. ⁶ – Aslian | Semelai | Kruspe (2004) |
| EA Austro-As. – M.-K. – Bahnaric | Stieng ⁷ | Bon (2014) |
| EA Austro-As. – M.-K. – Khmer | Khmer ⁸ | Haiman (2011) |
| EA Austro-As. – M.-K. – P.-Khmuic ⁹ | Lawa ¹⁰ | Blok (2013) |
| PN Austr. ¹¹ – Central Malayo-Polynesian | Lamaholot | Kroon (2016) |
| PN Austr. – East Formosan | iliAmis | Sung (2006), Wu (2006) |
| ... | ... | ... |
| PN Austr. – East. M.-P. ¹² – Oceanic | Cheke Holo | Boswell (2018) |
| PN Austr. – East. M.-P. – S H.-W. N. G. ¹³ | Wooi | Sawaki (2016) |
| PN Austr. – Greater Central Philippine | Cebuano | Tanangkingsing (2009) |
| PN Austr. – Malayo-Sumbawan | Madurese | Davies (2010) |
| PN Austr. – Northern Luzon | Dup. Agta ¹⁴ | Robinson (2011a) |
| PN Austr. – N.W. Sumatra-Barrier Is. ¹⁵ | Gayo | Eades (2005) |
| PN Austr. – South Sulawesi | Makassarese | Jukes (2006; 2013) |
| PN Baining-Taulil – Taulil | Tulil | Meng (2018) |
| SA Barbacoan | Awa Pit | Curnow (1997) |
| EA Basque | Basque | Hualde & de Urbina (2003), de Rijk (2007) |
| ... | ... | ... |
| SA Cacula-Nukak | Kakua | Bolaños (2016) |
| SA Camsá | Kamsá | O'Brien (2018) |
| SA Cariban | Panare | Payne & Payne (2012) |
| AF Central Sudanic – Bongo-Bagirmi | Kabba | Moser (2004) |
| AF Central Sudanic – Lendu | Ngiti | Kutsch Lojenga (1994) |
| AF Central Sudanic – Moru-Ma'di | Ma'di | Blackings & Fabb (2003) |
| SA Chapacura-Wanham | Oro Waram | Apontes (2015) |
| SA Chibchan – Arhuacic | Ika | Frank (1985) |
| NA Chibchan – Rama | Rama | Grinevald (1990) |

⁵ Austro-Asiatic

⁶ Mon-Khmer

⁷ Bulo Stieng

⁸ Central Khmer

⁹ Palaung-Khmuic

¹⁰ Eastern Lawa

¹¹ Austronesian

¹² Eastern Malayo-Polynesian

¹³ South Halmahera-West New Guinea

¹⁴ Dupanigan Agta

¹⁵ Northwest Sumatra-Barrier Islands

| Genus | Language | Primary source(s) |
|------------------------------------|--------------------------|---|
| NA Chibchan – Talamanca | Teribe | Quesada (2000) |
| EA Chukotko-Kamchatkan – Northern | Chukchi | Dunn (1999) , |
| ... | ... | Nedjalkov (2006) , |
| ... | ... | Kurebito (2012) , |
| ... | ... | Stenin (2017) |
| NA Chumash | Ineseño | Applegate (1972) |
| AU Darwin Region – Limilngan | Limilngan | Harvey (2001) |
| AF Dogon | Yanda Dom | Heath (2017b) |
| EA Dravidian – South-Central | Telugu | Krishnamurti & Gwynn (1985) , |
| ... | ... | Subbarao & Murthy (1999) |
| EA Dravidian – Southern | Malayalam | Asher & Kumari (2003) |
| PN East Bird’s Head | Moskona | Gravelle (2010) |
| PN East Bougainville | Motuna | Onishi (1994)¹⁶ |
| PN East Strickland | Konai | Årsjö (2016) |
| AU Eastern Daly | Matngele | Zandvoort (1999) |
| AF Eastern Sudanic – Eastern Jebel | Gaahmg | Stirtz (2012) |
| AF Eastern Sudanic – Kuliak | Ik | Schrock (2014) |
| AF Eastern Sudanic – Nilotic | Luwo | Storch (2014) |
| AF Eastern Sudanic – Nubian | Nubian ¹⁷ | Abdel-Hafiz (1988)¹⁸ |
| AF Eastern Sudanic – Surmic | Majang | Joswig (2019) |
| NA Eskimo-Aleut – Eskimo | Yupik ¹⁹ | Miyaoka (2012) |
| AU Garrwan | Garrwa | Mushin (2012) |
| EA Great Andamanese | Gr. Andam. ²⁰ | Abbi (2013) |
| SA Guaicuruan – South | Pilagá | Vidal (2001) |
| AF Gumuz | Gumuz ²¹ | Ahland (2012) |
| AU Gunwinyguan – Anindilyakwa | Enindhily. ²² | van Egmond (2012) |
| AU Gunwinyguan – Gunwinygic | B. Gun-Wok ²³ | Evans (2003) |
| AU Gunwinyguan – Ngandi | Ngandi | Heath (1978) |
| AU Gunwinyguan – Nunggubuyu | Nunggubuyu | Heath (1984) |
| AU Gunwinyguan – Warayic | Waray | Harvey (1986)²⁴ |
| EA Hmong-Mien | Xong ²⁵ | Sposato (2015) |

¹⁶The 2011 version of [Onishi](#)’s grammar could not be obtained.

¹⁷Kunuz Nubian

¹⁸The 2017 version of [Abdel-Hafiz](#)’s grammar could not be obtained.

¹⁹Central Alaskan Yupik

²⁰Great Andamanese

²¹Northern Gumuz

²²Enindhilyakwa

²³Bininj Gun-Wok

²⁴The 1999 version of [Harvey](#)’s grammar could not be obtained.

²⁵Western Xong

Appendix A

| Genus | Language | Primary source(s) |
|-----------------------------|------------------------|-----------------------------|
| NA Hokan – Chimariko | Chimariko | Jany (2009) |
| NA Hokan – Pomoan | Pomo ²⁶ | Walker (2013) ²⁷ |
| NA Hokan – Yuman | Jamul Tiipay | Miller (2001) |
| NA Huavean | Huave ²⁸ | Kim (2008) |
| SA Huitotoan – Boran | Bora | Thiesen & Weber (2012) |
| SA Huitotoan – Huitoto | Murui | Wojtylak (2017) |
| EA Indo-European – Armenian | Armenian ²⁹ | Dum-Tragut (2009) |
| EA Indo-European – Celtic | Welsh | King (2003), |
| ... | ... | Borsley et al. (2007) |
| EA Indo-European – Germanic | Danish | Personal knowledge |
| EA Indo-European – Iranian | Balochi | Axenov (2006) |
| NA Iroquoian – Southern | Cherokee | Montgomery-Anderson (2008) |
| EA Isolate | Ainu | Bugaeva (2004), |
| ... | ... | Alpatov et al. (2007) |
| AF Isolate | Chabu | Kibebe (2015) |
| AU Isolate | Gaagudju | Harvey (2011) |
| NA Isolate | Haida ³⁰ | Enrico (2003) |
| NA Isolate | Kutenai | Morgan (1991) |
| SA Isolate | Kwaza | van der Voort (2004) |
| SA Isolate | Mosetén | Sakel (2004) |
| SA Isolate | Movima | Haude (2006; 2012) |
| EA Isolate | Nihali | Nagaraja (2014) |
| EA Isolate | Nivkh | Nedjalkov & Otaina (2013) |
| PN Isolate | Oksapmin | Loughnane (2009) |
| SA Isolate | Puinave | Higuita (2008) |
| AF Isolate | Sandawe | Eaton (2010) |
| ... | ... | Steeman (2012) |
| SA Isolate | Trumai | Guirardello (1999) |
| SA Isolate | Urarina | Olawsky (2006) |
| AU Isolate | Wagiman | Cook (1987) |
| NA Isolate | Yuchi | Linn (2000) |
| EA Japanese | Irabu | Shimoji (2008) |
| SA Jivaroan | Wampis | Peña (2015) |
| SA Kapixana | Kanoê | Bacelar (2004) |

²⁶Southern Pomo

²⁷The 2020 version of Walker's grammar could not be obtained.

²⁸San Francisco del Mar Huave

²⁹Eastern Armenian

³⁰Masset Haida

| Genus | Language | Primary source(s) |
|---|---------------------------|-------------------------|
| SA Katukinan | Katukina-K. ³¹ | dos Anjos (2011) |
| NA Keresan | Keresan ³² | Lachler (2006) |
| AF Khoe-Kwadi | Ts'ixa | Fehn (2014) |
| AF Koman | Uduk | Killian (2005) |
| AF Kordofanian – Talodi | Lumun | Smits (2017) |
| EA Korean | Korean | Chang (1996), |
| ... | ... | Sohn (1999), |
| ... | ... | Yeon & Brown (2011) |
| PN Kwomtari-Baibai – Fas | Momu | Honeyman (2017) |
| AF Kxa – †Hoan | †Hðǎ | Collins & Gruber (2014) |
| AF Kxa – Ju-Kung | !Xun ³³ | Heine & König (2015) |
| PN L. Sepik-Ramu ³⁴ – Keram | Ulwa | Barlow (2018) |
| PN L. Sepik-Ramu – Lower Ramu | Awar | Levy (2002) |
| PN L. Sepik-Ramu – Lower Sepik | Yimas | Foley (1991) |
| SA Macro-Ge – Ge-Kaingang | Apinajé | de Oliveira (2005) |
| AF Mande – Eastern | Mano | Khachaturyan (2014) |
| AF Mande – Western | Jalkunan | Heath (2017a) |
| AU Mangarrayi-Maran – Mangarrayi | Mangarrayi | Merlan (1989) |
| AU Mangrida – Burraran | Gurr-Goni | Green (1995) |
| AU Mangrida – Nakkara | Nakkara | Eather (2011) |
| PN Marind – Marind Proper | Marind | Olsson (2017) |
| SA Mascoian | Sanapaná | Gomes (2013) |
| NA Mayan | Chol | Álvarez (2011) |
| AU Mirndi – Djingili | Jingulu | Pensalfini (2003) |
| NA Mixe-Zoque | Mixe ³⁵ | Romero-Méndez (2008) |
| NA Muskogean | Creek | Martin (2011) |
| SA Nadahup | Hup | Epps (2008) |
| NA Na-Dene – Athapaskan | Tanacross | Holton (2000) |
| EA Nakh-Dagh. – D. – A.-A.-T. ³⁶ | Hinuq | Forker (2013) |
| EA Nakh-Dagh. – Nakh | Ingush | Nichols (2011) |
| SA Nambikuaran | Mamaindê | Eberhard (2009) |
| AF N.-Congo ³⁷ – A.-U. ³⁸ – Adamawa | Mambay | Anonby (2008) |
| AF N.-Congo – Atlantic – Mel | Mani | Childs (2011) |

³¹Katukina-Kanamari

³²Western Keresan

³³Western !Xun

³⁴Lower Sepik-Ramu

³⁵Ayutla Mixe

³⁶Nakh-Daghestanian – Daghestanian – Avar-Andic-Tsezic

³⁷Niger-Congo

³⁸Adamawa-Ubangi

Appendix A

| Genus | Language | Primary source(s) |
|-------------------------------------|------------------------|------------------------------|
| AF N.-Congo – Atlantic – Northern | Balanta ³⁹ | Creissels & Biaye (2016) |
| AF N.-Congo – Benue-Congo – Bantoid | Fwe ⁴⁰ | Gunnink (2018) |
| AF N.-Congo – Gbaya-Manza-Ngbaka | Ngbaka ⁴¹ | Selezilo (2008) |
| AF N.-Congo – Gur | Moba | Kanchoua (2005) |
| AF N.-Congo – Kwa | Tafi | Bobuafor (2013) |
| EA Northwest Caucasian | Ubykh | Fenwick (2011), |
| ... | ... | Fell (2012), |
| ... | ... | Arkadiev & Lander (2020) |
| AU Nyulnyulan | Bardi | Bowern (2012) |
| NA Oto-Manguean – Mixtecan | Mixtec ⁴² | Macaulay (1996) |
| NA Oto-Manguean – Otomian | Otomí ⁴³ | Hernández-Green (2015) |
| NA Oto-Manguean – Zapotecan | Zapotec ⁴⁴ | Nicolás (2016) |
| SA Páezan | Páez | Jung (2008) |
| AU Pama-Nyungan – Central | Arrernte ⁴⁵ | Wilkins (1989) |
| AU Pama-Nyungan – Western | Bilinarra | Meakins & Nordlinger (2014) |
| SA Panoan | Chácobo | Tallman (2018) |
| SA Peba-Yaguan | Yagua | Payne (1985b,a) |
| NA Penutian – Molala | Molalla | Pharris (2006) |
| NA Penutian – Sahaptian | Sahaptin ⁴⁶ | Jansen (2010) |
| NA Penutian – Utian – Costanoan | Mutsun | Okrand (1977) |
| SA Quechuan | Quechua ⁴⁷ | Shimelman (2017) |
| AF Saharan – Western | Dazaga | Walters (2015) ⁴⁸ |
| NA Salishan – Central | Musqueam | Suttles (2004) |
| NA Salishan – Interior | Nxa'amxcin | Willett (2003) |
| PN Senagi | Menggwa Dla | de Sousa (2006) |
| PN Sepik – Middle Sepik | Iatmul | Jendraschek (2012) |
| PN Sepik – Ram | Awtuw | Feldman (1986) |
| PN Sepik – Sepik Hill | Alamblak | Bruce (1979) |
| PN Sepik – Tama Sepik | Mehek | Hatfield (2016) |
| PN Sepik – Upper Sepik | Abau | Lock (2011) |

³⁹Ganja Balanta

⁴⁰Namibian Fwe

⁴¹Manza Ngbaka

⁴²Chalcatongo Mixtec

⁴³Acazolco Otomí

⁴⁴Zoochina Zapotec

⁴⁵Mparntwe Arrernte

⁴⁶Northern Sahaptian

⁴⁷Yauyos Quechua

⁴⁸The 2016 version of Walters's grammar could not be obtained.

| Genus | Language | Primary source(s) |
|--|--------------------------|--------------------------|
| EA Sino-T. ⁴⁹ – Chinese | Chinese ⁵⁰ | Li (2018) |
| EA Sino-T. – Tib.-B. ⁵¹ – Bodo-Garo | Rabha | Joseph (2007) |
| EA Sino-T. – Ti.-B. – Dhimalic | Dhimal | King (2009), |
| ... | ... | Khatiwada (2016) |
| EA Sino-T. – Tib.-B. – Lepcha | Lepcha | Plaisier (2007) |
| EA Sino-T. – Tib.-B. – Naxi | Yongning Na | Lidz (2010) |
| EA Sino-T. – Tib.-B. – Nungish | Anong | Sun & Liu (2009) |
| EA Sino-T. – Tib.-B. – Qiangic | Pumi ⁵² | Daudey (2014) |
| EA Sino-T. – Tib.-B. – Tani | Galo | Post (2007) |
| NA Siouan – Core Siouan | Assiniboine | Cumberland (2005) |
| PN Skou – Warapu | Barupu | Corris (2005) |
| PN Skou – Western | Skou | Donohue (2004) |
| PN Solomons E. Papuan ⁵³ – Lavukaleve | Lavukaleve | Terrill (2003) |
| PN Solomons E. Papuan – Savosavo | Savosavo | Wegener (2012) |
| AF Songhay | H. Senni ⁵⁴ | Heath (2014) |
| EA South Andamanese | Jarawa | Kumar (2012) |
| AU S. Daly ⁵⁵ – Ngankikurungkurr | Ngan'gity. ⁵⁶ | Reid (1990) |
| SA Tacanan | Ese Ejja | Vuillermet (2012) |
| EA Tai-Kadai – Kam-Tai | Lao | Enfield (2007) |
| AU Tangkic | Kayardild | Evans (1995), |
| ... | ... | Round (2013) |
| PN Timor-Alor-Pantar – Greater Alor | Teiwa | Klamer (2010) |
| PN Timor-Alor-Pantar – M.-F.-O. ⁵⁷ | Makalero | Huber (2011) |
| AU Tiwian | Tiwi ⁵⁸ | Lee (1987) ⁵⁹ |
| PN Torricelli – Urim | Urim | Hemmilä & Luoma (1987), |
| ... | ... | Wood (2012) |
| PN Torricelli – Wapei-Palei | Yeri | Wilson (2017) |
| ... | ... | Wood (2012) |
| NA Totonacan | Totonac ⁶⁰ | McFarland (2009) |

⁴⁹Sino-Tibetan

⁵⁰Gan Chinese

⁵¹Tibeto-Burman

⁵²Northern Pumi

⁵³Solomons East Papuan

⁵⁴Humburi Senni

⁵⁵Southern Daly

⁵⁶Ngan'gityemerri

⁵⁷Makasea-Fataluku-Oirata

⁵⁸Traditional Tiwi

⁵⁹The 1999 version of Lee's grammar could not be obtained.

⁶⁰Filomeno Mata Totonac

Appendix A

| Genus | Language | Primary source(s) |
|--|-----------------------|---------------------------|
| PN T.-New Guinea ⁶¹ – Angan | Menya | Whitehead (2006) |
| PN T.-New Guinea – Binanderean | Korafe | Farr (1999) |
| PN T.-New Guinea – Chimbu | Dom | Tida (2006) |
| PN T.-New Guinea – Dani | Wano | Burung (2017) |
| PN T.-New Guinea – Duna | Duna | San Roque (2008) |
| PN T.-New Guinea – Engan | Kewapi | Yarapea (2006) |
| PN T.-New Guinea – Finisterre-Huon | Nungon | Sarvasy (2014) |
| PN T.-New Guinea – Goilalan | Fuyug | Bradshaw (2007) |
| PN T.-New Guinea – Madang | Mauwake | Berghäll (2015) |
| PN T.-New Guinea – Mek | Una | Louwerse (1988) |
| PN T.-New Guinea – Ok | Mian | Fedden (2011) |
| SA Tucanoan | Tanimuka | Eraso (2015) |
| SA Tupian – Ramarama | Karo | Gabas (1999) |
| SA Tupian – Tupi-Guarani | Emerillon | Rose (2003) ⁶² |
| EA Uralic – Finno-Ugric – Finnic | Finnish | Personal knowledge |
| EA Uralic – Finno-Ugric – Permic | Udmurt | Perevoščikov (1962), |
| ... | ... | Winkler (2011) |
| EA Uralic – Finno-Ugric – Ugric | Mansi ⁶³ | Rombandeeva (1973), |
| ... | ... | Riese (2001) |
| EA Uralic – Samoyedic | Enets ⁶⁴ | Siegl (2013) |
| NA Uto-Aztecán – Aztecán | Nahuatl ⁶⁵ | Llanes et al. (2017), |
| ... | ... | Navarro (2017) |
| NA Uto-Aztecán – Californian | Cupeño | Hill (2005) |
| NA Uto-Aztecán – Numic | Ute | Givón (2011) |
| NA Uto-Aztecán – Tarahumaran | Warihio ⁶⁶ | Félix Armendáriz (2005) |
| NA Uto-Aztecán – Tepiman | Pima Bajo | Estrada Fernández (2014) |
| NA Wakashan – Southern | Makah | Davidson (2002) |
| NA Wappo-Yukian – Wappo | Wappo | Thompson et al. (2006) |
| PN West Bougainville | Rotokas | Robinson (2011b) |
| PN West Papuan – Hatam | Hatam | Reesink (1999) |
| PN West Papuan – North Halmaheran | Ternate | Hayami-Allen (2001) |
| PN West Papuan – N.-C. B. H. ⁶⁷ | Maybrat | Dol (2007) |
| AU Yangmanic | Wardaman | Merlan (1994) |

⁶¹Trans-New Guinea

⁶²The 2011 version of Rose's grammar could not be obtained.

⁶³Northern Mansi

⁶⁴Forest Enets

⁶⁵Huasteca Nahuatl

⁶⁶River Warihio

⁶⁷North-Central Bird's Head

| Genus | Language | Primary source(s) |
|--------------|------------------------|-------------------|
| SA Yatê | Yaathê | da Costa (1999) |
| EA Yeniseian | Ket | Werner (1997), |
| ... | ... | Vajda (2004), |
| ... | ... | Georg (2007) |
| EA Yukaghir | Yukaghir ⁶⁸ | Schmalz (2013) |

⁶⁸Tundra Yukaghir

Appendix B

This appendix lists the attestations of individual voices in the language sample alphabetically according to language. More details about the individual languages are provided in Appendix A, while the seven voices and their definitions are discussed in §2.2. Observe that the data in this appendix do *not* provide any information about voice syncretism which is covered by Appendix C.

| | REFL | RECP | ANTC | PASS | | ANTP | | CAUS | APPL |
|-----------------------|------|------|------|------|------|------|------|------|------|
| | | | | +ABS | -ABS | +ABS | -ABS | | |
| Abau | | | | | | | | + | |
| Ainu | + | + | + | | + | + | | + | + |
| Alamblak | | + | | | | | | + | + |
| Amis | | + | | | | | | + | + |
| Anong | + | + | + | | | | | + | |
| Apinajé | | | + | | | + | | + | |
| Arabic ¹ | + | + | + | | + | | | + | |
| Arapaho | + | + | | + | + | + | | + | + |
| Armenian ² | + | + | + | | + | | | + | |
| Arrernte ³ | + | + | + | | | | | + | + |
| Assiniboine | + | + | | | | + | | + | + |
| Awa Pit | | | | | | | | + | + |
| Awar | | | | | | | | | |
| Awtuw | | + | | | | | | | + |
| Balanta ⁴ | | + | + | + | | + | | + | + |
| Balochi | | | | | | | | + | |
| Baraïn | | + | + | + | | | | + | + |
| Bardi | + | + | | | | | | | + |
| Barupu | | | | | | | | | + |
| Basque | | | | | | | | + | |

¹Darfur Arabic

²Eastern Armenian

³Mparntwe Arrernte

⁴Ganja Balanta

Appendix B

| | REFL | RECP | ANTC | PASS | | ANTP | | CAUS | APPL |
|-------------------------|------|------|------|------|------|------|------|------|------|
| | | | | +ABS | -ABS | +ABS | -ABS | | |
| Bilinarra | | | | | | | | | |
| B. Gun-Wok ⁵ | + | + | + | | | | | + | + |
| Bora | + | + | | + | | | | + | |
| Cebuano | | + | | | | | | + | |
| Chabu | + | + | | | + | | | + | + |
| Chácobo | + | + | + | + | | + | | + | + |
| Cheke Holo | | + | | | | | | + | |
| Cherokee | + | + | + | | | + | | + | + |
| Chimariko | + | + | | | | | | + | + |
| Chinese ⁶ | | | | | | | | | |
| Chol | | | | | + | + | | + | + |
| Chukchi | + | + | + | | | | + | + | + |
| Creek | + | + | + | + | | | | + | + |
| Cupeño | | | + | + | | | | + | + |
| Danish | | + | + | | + | | | | |
| Dazaga | + | | + | | | | | | |
| Dhimal | + | + | + | + | | | | + | + |
| Dom | | | | | | | | | |
| Duna | | | | | | | | + | + |
| Dup. Agta ⁷ | | + | | | | | | + | + |
| Emerillon | + | + | | | | | | + | + |
| Enets ⁸ | | | | | + | + | | + | |
| Enindhily. ⁹ | + | + | + | | | | | + | + |
| Ese Ejja | + | + | + | | | | + | + | + |
| Finnish | + | | + | + | | | | + | |
| Fuyug | | | | | | | | | |
| Fwe ¹⁰ | + | + | + | | + | | | + | + |
| Galo | + | + | + | | | | | + | + |
| Garifuna | + | + | + | + | | | | + | |
| Garrwa | | | + | | | | | + | |
| Gayo | | + | | | | | | + | + |
| Ghomara | | + | | + | | | | + | |
| Goemai | | | | | | | | | |

⁵Bininj Gun-Wok

⁶Gan Chinese

⁷Dupaningan Agta

⁸Forest Enets

⁹Enindhilyakwa

¹⁰Namibian Fwe

| | REFL | RECP | ANTC | PASS | | ANTP | | CAUS | APPL |
|---------------------------|------|------|------|------|------|------|------|------|------|
| | | | | +ABS | -ABS | +ABS | -ABS | | |
| Gr. Andam. ¹¹ | + | + | | | | | | + | + |
| Gumuz ¹² | | + | | | | | | | + |
| Gurr-Goni | + | + | + | | | | | + | |
| Gaagudju | + | + | + | | | | | | |
| Gaahmg | | | | + | + | + | | + | |
| Haida ¹³ | | | | | | + | | + | |
| Hamar | | + | + | + | | | | + | |
| Hatam | | | | | | | | | + |
| Hinuq | | | + | | | | + | + | |
| †Hðǎ | | | | + | | | | + | |
| Huave ¹⁴ | + | + | + | + | | | | + | |
| H. Senni ¹⁵ | | | + | + | | + | | + | + |
| Hup | + | + | + | | + | | | + | + |
| Iatmul | | | | | | | | | |
| Ik | | + | + | + | | | | + | |
| Ika | + | + | | | | | | + | + |
| Ineseño | + | + | | | | | | + | + |
| Ingush | | | | | | | | + | |
| Irabu | | | + | | + | | | + | + |
| Jalkunan | | | | | | | | | |
| Jamul Tiipay | + | + | + | | | | | + | |
| Jarawa | | | | | | | | + | |
| Jingulu | + | + | | | | | | + | |
| Kabba | | | | | | | | | |
| Kakua | + | + | | | | | | | |
| Kamsá | + | + | | | | | | | |
| Kanoê | | + | | | | | | | + |
| Karo | + | + | | + | | | | + | |
| Katukina-K. ¹⁶ | + | + | | | | + | + | + | + |
| Kayardild | + | + | + | | + | | | + | |
| Keresan ¹⁷ | + | + | | | | | | | + |
| Ket | | | | | | | | + | + |

¹¹Great Andamanese

¹²Northern Gumuz

¹³Masset Haida

¹⁴San Francisco del Mar Huave

¹⁵Humburi Senni

¹⁶Katukina-Kanamari

¹⁷Western Keresan

Appendix B

| | REFL | RECP | ANTC | PASS | | ANTP | | CAUS | APPL |
|---------------------|------|------|------|------|------|------|------|------|------|
| | | | | +ABS | -ABS | +ABS | -ABS | | |
| Kewapi | | | + | | | | | + | + |
| Khimt'anga | | + | | | + | | | + | + |
| Khmer ¹⁸ | | | + | | | | | + | |
| Kilen | | + | | | + | | | + | |
| Konai | | | | | | | | + | |
| Konso | | | | + | | | | + | |
| Korafe | | | | | | | | | |
| Korean | | | + | + | + | | | + | |
| Kulina | | + | | | | | | + | + |
| Kutenai | + | + | + | + | | | | + | + |
| Kwaza | + | + | + | | | | | + | + |
| Lamaholot | | | | | | + | | | |
| Lao | | | | | | | | | |
| Lavukaleve | | + | | + | | | | + | |
| Lawa ¹⁹ | | | | | | | | | |
| Lepcha | | | | | | | | + | |
| Limilngan | | | | | | | | | |
| Lumun | + | + | + | | + | + | | + | + |
| Luwo | | | | + | | | + | + | |
| Ma'di | | | | | | + | | + | |
| Madurese | | + | | | | | | + | + |
| Majang | | | + | + | | + | | | |
| Makah | | + | | | | | | + | + |
| Makalero | | | | | | + | | + | |
| Makassarese | | + | + | | + | | | + | + |
| Malayalam | | | + | | + | | | + | |
| Mamaindê | + | + | | | | | | + | + |
| Mambay | | | | | | + | | + | |
| Mangarrayi | + | + | | | | + | | | |
| Mani | + | | | | | | | + | + |
| Mano | | | | | | | | | |
| Mansi ²⁰ | + | + | + | | + | | | + | |
| Mapuche | + | + | | + | | | | + | + |
| Marind | | + | + | | | | | | + |
| Matngele | | + | | | | | | + | |
| Mauwake | | | | | | | | + | + |

¹⁸Central Khmer

¹⁹Eastern Lawa

²⁰Northern Mansi

| | REFL | RECP | ANTC | PASS | | ANTP | | CAUS | APPL |
|--------------------------|------|------|------|------|------|------|------|------|------|
| | | | | +ABS | -ABS | +ABS | -ABS | | |
| Maybrat | | | | | | | | + | |
| Mehek | | | | | | | | | |
| Menggwa Dla | | | | | | | | | |
| Menya | + | + | | | | | | + | + |
| Mian | | + | | | | | | | + |
| Mixe ²¹ | + | + | | + | | | | + | + |
| Mixtec ²² | | | | | | | | + | |
| Moba | | | | | | | | + | |
| Molalla | + | + | + | | + | | | + | + |
| Momu | | + | | | | | | + | |
| Mongolian | | + | + | | + | | | + | |
| Mosetén | + | + | + | + | + | | + | + | + |
| Moskona | | + | + | | | | | + | + |
| Motuna | | + | | | | | | + | + |
| Movima | + | + | | | | | + | + | + |
| Murui | | | | | + | | | + | |
| Musqueam | + | + | + | | + | | + | + | + |
| Mutsun | + | + | + | + | | | | + | + |
| Nahuatl ²³ | + | + | + | + | | | + | + | + |
| Nakkara | + | + | | | | | | | |
| Ngandi | + | + | | + | | | | + | + |
| Ngan'gity. ²⁴ | | | | | | | | + | + |
| Ngbaka ²⁵ | | | | | | | | | |
| Ngiti | | | + | | | | | + | |
| Nihali | | | | | | | | + | |
| Nivkh | + | + | + | | | | | + | |
| Nubian ²⁶ | | | | | + | | | + | + |
| Nunggubuyu | + | + | + | | | + | | + | + |
| Nungon | | + | | | | | | | |
| Nxa'amxcin | + | + | | | + | | | + | + |
| Oksapmin | + | + | + | | | | + | + | + |
| Oro Waram | | | | | | | | | |

²¹ Ayutla Mixe

²² Chalcatongo Mixtec

²³ Huasteca Nahuatl

²⁴ Ngan'gityemerri

²⁵ Manza Ngbaka

²⁶ Kunuz Nubian

Appendix B

| | REFL | RECP | ANTC | PASS | | ANTP | | CAUS | APPL |
|------------------------|------|------|------|------|------|------|------|------|------|
| | | | | +ABS | -ABS | +ABS | -ABS | | |
| Otomi ²⁷ | + | + | + | + | | + | | + | + |
| Páez | + | + | | + | | | | + | + |
| Panare | + | + | + | | + | | + | + | |
| Paresi-Haliti | + | + | + | | | | | + | + |
| Pilagá | + | + | | + | | | | | + |
| Pima Bajo | | | | | | | | + | + |
| Pomo ²⁸ | | + | | + | | | | + | |
| Puinave | + | + | | | | | | + | |
| Pumi ²⁹ | | + | + | | | | | + | |
| Quechua ³⁰ | + | + | | + | | | | + | + |
| Rabha | | + | | | + | | | + | |
| Rama | | | + | | | | | + | |
| Rotokas | + | + | + | | | | | + | |
| Sahaptin ³¹ | + | + | | | | | | + | + |
| Sakun | | | | | | + | | | |
| Sanapaná | | | | | | | | | |
| Sandawe | + | + | + | + | | | | + | + |
| Savosavo | | | + | | | | | | + |
| Semelai | | + | | + | | | | + | + |
| Sheko | | + | + | | + | | | + | |
| Sidaama | | + | + | | + | | | + | |
| Skou | | | | | | | | | |
| Stieng ³² | | | | | | | | | |
| Tafi | | | | | | | | | |
| Tanacross | + | + | | | + | + | | + | |
| Tanimuka | | | | | | | | + | |
| Tariana | + | + | | | + | | | + | |
| Tatar | + | + | + | | + | + | | + | |
| Teiwa | | | | | | | | | |
| Telugu | + | + | + | | | | | + | |
| Teribe | | | | | | | | + | |
| Ternate | + | + | + | | | | | + | + |

²⁷Acazolco Otomí

²⁸Southern Pomo

²⁹Northern Pumi

³⁰Yauyos Quechua

³¹Northern Sahaptin

³²Bulo Stieng

| | REFL | RECP | ANTC | PASS | | ANTP | | CAUS | APPL |
|-----------------------|------|------|------|------|------|------|------|------|------|
| | | | | +ABS | -ABS | +ABS | -ABS | | |
| Tiwi ³³ | + | + | | | | | | + | + |
| Totonac ³⁴ | + | + | + | + | | | + | + | + |
| Trumai | | | | | | | | | |
| Ts'ixa | + | + | | + | | | | + | + |
| Tulil | | | | | | | | | |
| Ubykh | | + | | | | + | | + | + |
| Udmurt | + | + | + | | + | + | | + | |
| Uduk | | | | + | | | | | |
| Ulwa | | | | | + | + | | | |
| Una | | + | | | | | | + | |
| Urarina | + | | + | | + | | | + | |
| Urim | | | | | | | | | + |
| Ute | | | | + | | | | + | + |
| Wagiman | | + | | | | | | | |
| Wampis | + | + | + | | | | | + | + |
| Wano | + | + | | | | | | | |
| Wapishana | + | + | | | | | | + | |
| Wappo | | | | | | | | + | |
| Waray | + | + | | | | | | | |
| Wardaman | + | + | | | | | | | |
| Warihio ³⁵ | | | + | | + | | | + | + |
| Welsh | | | | | + | | | | |
| Wolaytta | + | + | + | | + | | | + | |
| Wooi | | | | | | | | | + |
| Xong ³⁶ | | + | | | | | | | |
| !Xun ³⁷ | | + | | | | | | + | + |
| Yagua | | + | | | | | | + | + |
| Yanda Dom | + | | + | + | | | | + | |
| Yeri | + | + | + | | | | | | + |
| Yimas | | + | + | | | | | + | + |
| Yine | + | + | | + | | | + | + | + |
| Yongning Na | | + | | | | | | | |
| Yuchi | + | + | | | | | | | + |

³³Traditional Tiwi

³⁴Filomeno Mata Totonac

³⁵River Warihio

³⁶Western Xong

³⁷Western !Xun

Appendix B

| | REFL | RECP | ANTC | PASS | | ANTP | | CAUS | APPL |
|------------------------|------|------|------|------|------|------|------|------|------|
| | | | | +ABS | -ABS | +ABS | -ABS | | |
| Yukaghir ³⁸ | + | + | | | | | | + | + |
| Yupik ³⁹ | | + | | | + | | + | + | + |
| Yaathê | | + | | | | | | + | |
| Zapotec ⁴⁰ | | | + | | | | | + | + |

³⁸Tundra Yukaghir

³⁹Central Alaskan Yupik

⁴⁰Zoochina Zapotec

Appendix C

This appendix lists the attestations of voice syncretism in the language sample alphabetically according to language. More details about the individual languages are provided in Appendix A, while the seven voices and their definitions are discussed in §2.2. A hashtag (#) in the passive and antipassive columns indicates *absolute* passive or antipassive marking, respectively, while the lack of a hashtag in these columns indicate *non-absolute* passive or antipassive voice marking.

| | Type | REFL | RECP | ANTC | PASS | ANTP | CAUS | APPL |
|-------------------------|------|--------|---------------------|------|-------------------|------------------|--------|---------------------|
| Ainu | 1a | | | -ke | | | -ke | |
| ... | 3 | | | | | | -e | e- |
| Alamblak | 3 | | | | | | hay- | -hay |
| Arabic ¹ | 1a | | | in- | in- | | | |
| ... | 1a | it- | it- | it- | | | | |
| Arapaho | 1a | -eti | -eti | | | | | |
| ... | 1a | | | | -ee | -ee [#] | | |
| Armenian ² | 1a | -v | -v | -v | -v | | | |
| Arrernte ³ | 1a | -lhe | | -lhe | | | | |
| ... | 1a | | | | | | -lhile | -lhile [†] |
| Assiniboine | 2 | | kic ^h i- | | | | | ki-, kici- |
| Balanta ⁴ | 1a | | | -l | -l [#] | | | |
| ... | 1b | | | | | -t [#] | -t | |
| Baraïn | 1a | | -fó | | -fó [#] | | | |
| Bardi | 1a | -inyji | -inyji | | | | | |
| B. Gun-Wok ⁵ | 1a | -rr(e) | -rr(e) | | | | | |
| Bora | 1a | -meí | | | -meí [#] | | | |
| Chabu | 1a | -we | | | -we | | | |
| ... | 1a | | | | | | -mba | -mba |

¹Darfur Arabic

²Eastern Armenian

³Mparntwe Arrernte

⁴Ganja Balanta

⁵Bininj Gun-Wok

Appendix C

| | Type | REFL | RECP | ANTC | PASS | ANTP | CAUS | APPL |
|-------------------------|--------|--------------------|---------------------|------------------|-----------------------------------|---------------------------------|-----------|---------|
| Chácobo | 1a | -i, -o | | -i, -o | -i [#] , -o [#] | | | |
| ... | 1a, 2 | | | | -ʔaká [#] | | -ʔak | -ʔak |
| Cherokee | 1a, 1b | at(aa)-/ ataat- | at(aa)-/ ataat- | at(aa)-/ ali- | | at(aa)-/ ataat- [#] | | |
| Chimariko | 1a | -ye ^ʔ w | -ye ^ʔ w | | | | | |
| Chukchi | 1a | -tku | -tku | -tku | | -tku | | |
| ... | 1a | | | | | ine- | | ine- |
| ... | 1a, 2 | -et | | -et [†] | | | -n-...-et | |
| Cupeño | 1a | | | -yax | -yax [#] | | | |
| Danish | 1a | | -s | -s | -s | | | |
| Dazaga | 1a | -t | | -t | | | | |
| Dhimal | 1a | -nha | | -nha | -nha [#] | | | |
| Emerillon | 1a | ze- | ze- | | | | | |
| ... | 1a | | | | | | elo- | elo- |
| Enindhily. ⁶ | 1a | -jungwV | | -jungwV | | | | |
| Ese Ejja | 1a | xa-...-ki | xa-...-ki | xa-...-ki | | xa-...-ki | | |
| Finnish | 1a | -UtU | | -UtU | | | | |
| ... | 2 | | | | -tA-An [#] | | -tA | |
| Fwe ⁷ | 1a | rí- | rí- | | | | | |
| ... | 1a | | | | | | -is/-es | -is/-es |
| Galo | 1a, 2 | -hí | (-rík)-hí | | | | | -rík |
| Garifuna | 1a | -gwa | -gwa | -gwa | | | | |
| Gayo | 2 | | bersi-... -(n)en | | | | -(n)en | |
| Gr. Andam. ⁸ | 1a | | | | | | ta= | ta= |
| ... | 2 | em-/em- | er-em- | | | | | |
| Gurr-Goni | 1a | -yi | -yi | -yi | | | | |
| Gaagudju | 1a | -gi [†] | -gi [†] | -gi [†] | | | | |
| ... | 1a | -y | -y | | | | | |
| Hamar | 1a | | -Vm | -Vm [†] | | | | |
| †Höä | 2 | | | | kì- [#] | | kí- | |
| Huave ⁹ | 1a | -(e)y | -(e)y | | | | | |
| ... | 1b | | | | -Vch [#] | | -V(j)ch | |
| H. Senni ¹⁰ | 1a | | | | -éyndi [#] | | -éyndi | |

⁶Enindhilyakwa

⁷Namibian Fwe

⁸Great Andamanese

⁹San Francisco del Mar Huave

¹⁰Humburi Senni

| | Type | REFL | RECP | ANTC | PASS | ANTP | CAUS | APPL |
|---------------------------|------|-------------------|------------------------------------|---------------------------|--------------------------|-------------------------------|-----------------|------------------|
| Hup | 1a | <i>hup-</i> | <i>hup-</i> | | <i>hup-</i> | | | |
| ... | 3 | | <i>?ũh-</i> | | | | | <i>-?ũh</i> |
| Ika | 1a | <i>rina-</i> | <i>rina-</i> | | | | | |
| Irabu | 1a | | | | <i>-(C)ai</i> | | | <i>-(C)ai</i> |
| Jamul Tiipay | 1a | <i>mat-</i> | <i>mat-</i> | <i>mat-</i> | | | | |
| Jingulu | 1a | <i>-nku</i> | <i>-nku</i> | | | | | |
| Kakua | 1a | <i>mĩk-</i> | <i>mĩk-</i> | | | | | |
| Kamsá | 1a | <i>en-</i> | <i>en-</i> | | | | | |
| Katukina-K. ¹¹ | 1a | <i>-i/-k/-hik</i> | <i>-i/-k/-hik</i> | | | <i>-i/-k/-hik[#]</i> | | |
| Kayardild | 1a | <i>-yii/-V</i> | | <i>-yii/-V</i> | <i>-yii/-V</i> | | | |
| Khimt'anga | 2 | | | | | | <i>-(i)s</i> | <i>~ -(i)s</i> |
| ... | 2 | | <i>-fit ~</i> | | <i>-fit</i> | | | |
| Kilen | 1a | | | | <i>-wu</i> | | <i>-wu</i> | |
| Konso | 2 | | | | <i>-ad[#]</i> | | <i>-acciiis</i> | |
| Korean | 1a | | | <i>-(C)i</i> | <i>-(C)i</i> | | <i>-(C)i</i> | |
| ... | 1a | | | <i>-eci</i> | <i>-eci[#]</i> | | | |
| Kulina | 2 | | <i>ka- ~,</i> <i>ka-...-ʼra</i> | | | | | <i>ka-</i> |
| Kutenai | 1a | | | | <i>-(i)t[#]</i> | | <i>-(i)t</i> | <i>-(i)t</i> |
| ... | 1b | | | <i>-p/-?</i> | | | <i>-?</i> | |
| ... | 2 | <i>-m-ik</i> | | | | | | <i>-m-at</i> |
| Kwaza | 1a | <i>-nỹ</i> | | <i>-nỹ</i> | | | | |
| ... | 2 | | | | | | <i>-dy</i> | <i>=wady</i> |
| Lumun | 1a | <i>-(a)kɔ</i> | | <i>-(a)kɔ</i> | <i>-(a)kɔ</i> | | | |
| ... | 1a | | <i>-ttɔ</i> | | | <i>-ttɔ[#]</i> | | |
| ... | 1a | | <i>-(a)rɔ</i> | | | <i>-(a)rɔ[#]</i> | | |
| Madurese | 2 | | <i>~ -an</i> | | | | | <i>ka-...-an</i> |
| Majang | 1a | | | <i>-(d)i:^L</i> | | <i>-(d)i:^{L#}</i> | | |
| Makalero | 1a | | | | | <i>-in^{i#}</i> | <i>-ini</i> | |
| Mangarrayi | 1a | <i>-(ñ)ijy(i)</i> | <i>-(ñ)ijy(i)</i> | | | <i>-(ñ)ijy(i)[#]</i> | | |
| ... | 1a | <i>-y(i)</i> | <i>-y(i)</i> | | | | | |
| Mansi ¹² | 1a | <i>-χat/-aχt</i> | <i>-χat/-aχt</i> | | | | | |
| ... | 1a | | | <i>-l</i> | | | <i>-l</i> | |
| Mapuche | 1a | <i>-(u)w</i> | <i>-(u)w</i> | | | | | |
| Mixe ¹³ | 1a | <i>nay-</i> | <i>nay-</i> | | | | | |
| ... | 1a | | | | <i>ak-[#]</i> | | <i>ak-</i> | |
| ... | 1a | | | | | | <i>a-</i> | <i>a-</i> |

¹¹Katukina-Kanamari

¹²Northern Mansi

¹³Ayutla Mixe

Appendix C

| | Type | REFL | RECP | ANTC | PASS | ANTP | CAUS | APPL |
|--------------------------|----------|-------------------------|-------------------------|-----------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|
| Molalla | 1a | <i>ha-</i> | <i>ha-</i> | | | | | |
| Mongolian | 1a | | | | <i>-UUI</i> | | <i>-UUI</i> | |
| Mosetén | 1a, 2, 3 | <i>-ti</i> | <i>-ti</i> | | <i>ja-...-ti</i> | | | <i>ti-</i> |
| ... | 1a | | | <i>-ki</i> | <i>-ki[#]</i> | <i>-ki</i> | | |
| Moskona | 1a | | | | | | <i>er-</i> | <i>er-</i> |
| Movima | 1a | <i>-cheɬ</i> | <i>-cheɬ</i> | | | | | |
| ... | 1a, 2 | <i>-ki(-kweɬ)</i> | <i>-ki-kweɬ</i> | | | | | |
| Musqueam | 1a | <i><θə></i> | | <i><θə></i> | | | | |
| ... | 1a | | | <i>-m</i> | <i>-m</i> | | | |
| ... | 1a | | | | | | <i>-nəx^w</i> | <i>-nəx^w</i> |
| ... | 1a | | | | | | <i>-stəx^w</i> | <i>-stəx^w</i> |
| Nahuatl ¹⁴ | 1a | <i>mo-</i> | <i>mo-</i> | <i>mo-</i> | <i>mo-[#]</i> | | | |
| Nakkara | 1a | <i>-(ndji)ya</i> | <i>-(ndji)ya</i> | | | | | |
| Ngandi | 1a | <i>-(y)i</i> | | | <i>-(y)i[#]</i> | | | |
| Ngan'gity. ¹⁵ | 1a | | | | | | <i>mi-</i> | <i>mi-</i> |
| Nivkh | 1a | <i>p^h-</i> | | <i>p^h-</i> | | | | |
| ... | 3 | | <i>u-</i> | | | | <i>u-</i> | |
| Nunggubuyu | 1a | <i>-i</i> | | <i>-i</i> | | <i>-i[#]</i> | | |
| ... | 1a, 3 | <i>-n^yji</i> | <i>-n^yji</i> | | | <i>-n^yji[#]</i> | | <i>an^yji-</i> |
| Oksapmin | 1a | <i>t-</i> | | <i>t-</i> | | <i>t-</i> | | |
| Otomí ¹⁶ | 1a | <i>n-/nt(x)-</i> | <i>n-/nt(x)-</i> | <i>n-/nt(x)-</i> | | <i>n-/nt(x)-[#]</i> | | |
| ... | 1a | | | | | | <i><h></i> | <i><h></i> |
| Páez | 1a | <i>jaʔ-</i> | <i>jaʔ-</i> | | <i>jaʔ-[#]</i> | | | |
| Panare | 1a | <i>Vs-</i> | <i>Vs-</i> | <i>Vs-</i> | | | | |
| ... | 1a | <i>Vt-</i> | | <i>Vt-</i> | | | | |
| Paresi-Haliti | 1a, 2 | <i>-oa</i> | <i>-kako</i> | <i>-oa</i> | | | | |
| Pilagá | 2 | <i>-l'at</i> | <i>-'at</i> | | | | | |
| Pima Bajo | 1a | | | | | | <i>-id/-di</i> | <i>-id/-di</i> |
| Quechua ¹⁷ | 1a, 2 | <i>-kU</i> | <i>-na-kU</i> | | <i>-kU[#]</i> | | | |
| Rotokas | 1a | <i>ora-</i> | <i>ora-</i> | | | | | |
| Sandawe | 1a | <i>-ts'í</i> | | | <i>-ts'í[#]</i> | | | |
| ... | 1a | | | <i>-ts'í</i> | <i>-ts'í[#]</i> | | | |
| ... | 1b | | | | | | <i>-kù/-kw</i> | <i>-x'/-kw</i> |
| Semelai | 2 | | <i>b(r)- ~</i> | | <i>b(r)-[#]</i> | | | |
| Sheko | 2 | | <i>-s-ŋ</i> | <i>-ŋ</i> | | | <i>-s</i> | |
| Sidaama | 1a | | <i>-am</i> | <i>-am</i> | <i>-am</i> | | | |

¹⁴Huasteca Nahuatl

¹⁵Ngan'gityemerri

¹⁶Acazulco Otomí

¹⁷Yauyos Quechua

| | Type | REFL | RECP | ANTC | PASS | ANTP | CAUS | APPL |
|------------------------|--------|--------------------------------|-------------------------------|----------------|--------------------------|-------------------------|--------------|-------------|
| Tanacross | 2 | <i>?ede-</i> + <i>l-/t-</i> | <i>nił-</i> + <i>l-/t-</i> | | <i>l-/t-</i> | | | |
| Tariana | 1a | <i>-kaka</i> [†] | <i>-kaka</i> | | | | | |
| Tatar | 1a | <i>-n</i> | | <i>-n</i> | <i>-n</i> | <i>-n</i> [#] | | |
| ... | 1a | | <i>-š</i> | | | <i>-š</i> [#] | | |
| ... | 1a | | | <i>-l</i> | <i>-l</i> | | | |
| Telugu | 1a | <i>-kon(n)</i> | <i>-kon(n)</i> | <i>-kon(n)</i> | | | | |
| Ternate | 1a, 2 | <i>ma-</i> | <i>maku-</i> | <i>ma-</i> | | | | |
| ... | 1a | | | | | | <i>si-</i> | <i>si-</i> |
| Totonac ¹⁸ | 1a | <i>-kan</i> | | | <i>-kan</i> [#] | | | |
| Ubykh | 1a | | | | | | <i>ʙ3-</i> | <i>ʙ3-</i> |
| Udmurt | 1a | <i>-śk</i> | <i>-śk</i> | <i>-śk</i> | <i>-śk</i> | <i>-śk</i> [#] | | |
| Urarina | 1a | <i>ne-</i> | | <i>ne-</i> | | | | |
| Wampis | 2 | | <i>-na-i</i> | <i>-na</i> | | | | |
| Wardaman | 1a | <i>-yi</i> | <i>-yi</i> | | | | | |
| Wolaytta | 1a, 1b | <i>-ett/-étt</i> | <i>-ett/-étt</i> | | <i>-ett/-étt</i> | | <i>-ett</i> | |
| !Xun ¹⁹ | 1a | | <i>-ā</i> | | | | | <i>-ā</i> |
| Yanda Dom | 1a | <i>-yV</i> | | <i>-yV</i> | | | | |
| ... | 1a | | | | <i>-mɛ</i> ^{#†} | | <i>-mɛ</i> | |
| Yeri | 1a | <i>d-</i> | <i>d-</i> | <i>d-</i> | | | | |
| Yine | 1a, 2 | | <i>-kaka</i> | | <i>-ka</i> [#] | | <i>-kaka</i> | |
| Yuchi | 1a | | <i>k'a-</i> | | | | | <i>k'a-</i> |
| Yukaghir ²⁰ | 1a | | | | | | <i>-re</i> | <i>-re</i> |
| Yupik ²¹ | 1a | | <i>-ut</i> | | | <i>-ut</i> | | <i>-ut</i> |
| ... | 1a | | | | | <i>-i</i> | | <i>-i</i> |

¹⁸Filomeno Mata Totonac

¹⁹Western !Xun

²⁰Tundra Yukaghir

²¹Central Alaskan Yupik

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Voice syncretism

Set blurb on back with \BackBody{my blurb}

