

# Cross-linguistic sources of anticausative markers

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## Abstract

The (anti)causative alternation, that is, the alternation whereby languages contrast intransitive verbs expressing spontaneous events with transitive ones expressing externally caused events, has been the object of extensive language-specific and cross-linguistic studies. Within this type of alternation, marking on the intransitive member goes under the name of anticausative marking, while marking on the transitive member is causative marking. Historical research has mostly focused on causatives, while the diachrony of anticausative markers has largely been neglected. In the literature, only two possible cross-linguistic sources of anticausatives are mentioned: reflexive and passive markers. In this paper, I explore the sources of anticausative markers in a sample of 98 languages and show that they are much more varied than what is currently reported in the literature. Taking this richer diachronic evidence into account also sheds light on some yet controversial aspects concerning the relationship between anticausativization and reflexivity.

**Keywords:** diachronic typology, anticausative marking, reflexive, grammaticalization

## 1. Introduction

With the term *anticausative alternation* linguists refer to the way in which languages express events that are construed as coming about spontaneously as opposed to those that are construed as caused by an external entity.<sup>1</sup> In this paper, I follow Haspelmath's (2016: 37) proposal and refer to the two members of this alternation as NONCAUSAL vs. CAUSAL verb forms, respectively. Decades of research on this topic have shown that languages resorts to a wide array of morphosyntactic strategies to express

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<sup>1</sup> By alternation, I refer to the possibility of individual verbs to occur in multiple argument structure constructions or valency frames (see Levin 1993; Malchukov 2015).

this alternation. Overt marking on the causal member of the alternation (e.g. Hittite *ze-* ‘cook (intr.)’ vs. *zai-nu-* ‘cook (tr.)’) goes under the name of *causative marking*, whereas overt marking on the noncausal verb (e.g. Russian *serdit* ‘make angry’ vs. *serdit’-sja* ‘be/get angry’) is referred to as *anticausative marking* (Nedjalkov & Silnitsky 1973: 2).

Diachronic studies have mostly focused on causative markers, both in terms of their possible (lexical) sources (Song 1996: Chap. 3; Zúñiga & Kittilä 2019: 220–221) and in their connections to other valency operations, such as passives and applicatives (Bahrt 2021: Chap. 7). Less attention has been paid to the diachronic typology of anticausative markers (henceforth, AMs), perhaps also due to the well-known fact that anticausatives are cross-linguistically less frequent than causatives (Nichols et al. 2004: 162; Zúñiga & Kittilä 2019: 53; Bahrt 2021: 147). In reference works such as Zúñiga & Kittilä (2019: 233) and Kuteva et al. (2019: 363) only two possible sources of AMs are mentioned: reflexive and passive markers. In fact, while extensive work has been carried out on the REFLEXIVE > ANTICAUSATIVE development, the lexical sources of AMs remain largely underexplored. Moreover, even with respect to the relationship between AMs and other voice markers there is evidence for developments that go against the directionalities commonly discussed in the literature (Bahrt 2021: Chap. 7).

Taking stock of these premises, this paper aims to fill this gap and offer an overview of the diachrony of AMs in the languages of the world. The work is couched in the framework of diachronic typology, understood here as the sub-field of linguistic typology where cross-linguistic research on linguistic phenomena meets historical linguistics and grammaticalization studies (e.g. Sansò 2017, 2020; Cristofaro 2021). While cross-linguistic data indeed points towards a robust connection between reflexives and anticausatives, working with a convenience sample of 98 languages I show that reflexives are by no means the only available source of AMs. This richer diachronic evidence can also contribute to clarifying long-lasting debates on the relationship between anticausatives and reflexives.

The paper is structured as follows. In Section 2, I briefly review the typological literature on the anticausative alternation and illustrate its morphosyntactic realizations. Section 3 illustrates the diachronic development of reflexives into anticausatives. Section 4 is devoted to non-reflexive sources of AMs. After a presentation of the sample (Section 4.1), I turn to discussing each type of source in some detail in Sections 4.2 to 4.7. Section 5 discusses the findings of the previous

section and offers an overview of how AMs come about (5.1-5.2) and their relationship to reflexives (5.3). Section 6 features the conclusions of this work.

## 2. The (anti)causative alternation

A decades-long body of research on the (anti)causative alternation has unveiled much of the morphosyntactic and semantic variation that exists in this domain within and across languages (see Tubino-Blanco 2020 for an overview), both in formal (e.g. Schäfer 2008, 2009; Alexiadou 2010; Alexiadou et al. 2015) and in functional/typological frameworks (e.g. Nedjalkov & Silnitsky 1973; Haspelmath 1987, 1993b, 2016; Levin 1993; Levin & Rappaport Hovav 1995; Nichols et al. 2004). As Schäfer (2009: 641) puts it:

the causative alternation is characterized by verbs that have an intransitive as well as a transitive use, where the intransitive use typically denotes a change-of-state event undergone by some entity and the transitive use denotes that this change-of-state event has been brought about or caused by some different entity.

Syntactically, this alternation involves a transitivity shift, as noncausal verbs are typically intransitive whereas causal ones are transitive (see also Alexiadou *et al.* 2015).

Cross-linguistic research has shown that languages display a variety of formal strategies to encode this alternation. These can be subsumed under a few general types based on the locus of marking (Nedjalkov & Silnitsky 1973; Nichols et al. 2004). The main types are the *anticausative pattern*, the *causative pattern* and the *equipollent pattern*.<sup>2</sup> In the anticausative pattern, an unmarked causal verb is opposed to a marked noncausal counterpart, as in (1).<sup>3</sup> By contrast, in the causative pattern the causal verb form carries overt marking while the noncausal verb is morphologically simple, as in (2). Finally, in the equipollent pattern both the causal and the noncausal verb forms are equally marked, as in (3).

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<sup>2</sup> Other patterns include labiality, as in the case of English *break* (tr./intr.), and suppletion, as e.g. English *kill* vs. *die* (see Nichols et al. 2004). Since neither of these offers evidence for overt AMs, I will exclude them from this study.

<sup>3</sup> Glosses and translations generally reproduce those of the sources, with a few adjustments. In all examples, the AM is in bold and is consistently glossed as ANTC, irrespective of the original glossing in the source.

## (1) ANTICAUSATIVE: Kammu (Austroasiatic; Zúñiga &amp; Kittilä 2019: 49)

- a. *ʔòʔ p̄ɪr tóʔ* CAUSAL  
 I shake table  
 ‘I shake the table.’
- b. *tóʔ hm-p̄ɪr* NONCAUSAL  
 table ANTC-shake  
 ‘The table shakes.’

## (2) CAUSATIVE: Turkish (Turkic; Zúñiga &amp; Kittilä 2019: 16)

- a. *Hasan öl-dü*  
 H.(NOM) die-PST  
 ‘Hasan died.’
- b. *Ali Hasan-i öl-dür-dü*  
 A.(NOM) H.-ACC die-CAUS-PST  
 ‘Ali killed Hasan.’

## (3) EQUIPOLLENT: Yaqui (Uto-Aztecan; Tubino-Blanco 2020: 19)

- a. *U kari bee-te*  
 DET.NOM house.NOM burn-ANTC  
 ‘The house is burning.’
- b. *Joan kari-ta bee-ta*  
 J. house-ACC burn-CAUS  
 ‘Juan is burning the house.’

In this paper, I will focus on AMs, that is, on markers that occur on the noncausal member in patterns such as (1) and (3). Anticausative marking on the verb can also be described as *anticausative voice* and anticausativization can be defined as the diathesis in which the Agent participant is removed from both the semantic and the syntactic valency of bivalent verbs and the Patient is encoded as subject (Zúñiga & Kittilä 2019: 41–53; Bahrt 2021: 37). The main semantic effect of anticausativization is that, the Agent being removed from the semantic valency of the verb, the event is construed as coming about spontaneously (Haspelmath 1993b: 90). Agent removal is

also the key difference between anticausatives and passives, as the latter still include the Agent in the event frame, as shown by the fact that some languages allow its expression via oblique phrases (Zúñiga & Kittilä 2019: 83).

AMs show notable restrictions with respect to the verb bases that they may apply to (see Cennamo et al. 2015: 680–681; Alexiadou et al. 2015: 20–23, 52–56; Tubino-Blanco 2020). First, anticausativization mostly concerns change-of-state predicates (Schäfer 2009; Alexiadou et al. 2015: 53), while other aspectual classes, such as atelic activity verbs, are only marginally included (e.g. Cennamo 2012; Cennamo et al. 2015). Most importantly, transitive verbs that lexicalize what Haspelmath (1987: 12) calls *agent-oriented meaning components*, that is, that have a lexically specified manner and/or causer, such as *cut* or *murder*, are excluded from the anticausative alternation (Koontz-Garboden 2009; Rappaport Hovav & Levin 2010).

Anticausative verbs can semantically be split up in two main classes: *decausative* and *autocausatives* or *endoreflexive* verbs (Geniušienė 1987: 86–89, 98–104; Haspelmath 1987: 27; Greissels 2006: 10). The main semantic difference between the two concerns control: decausative verbs involve (inanimate) participants that undergo an uncontrolled change of state (e.g. *melt*, *fall sick*) (see also Haspelmath 2016), whereas autocausatives involve (animate) participants that are conceived as partly controlling (at least the onset of) the event. In this respect, autocausative are semantically closer to reflexives, and typically include verbs of self-induced motion such as *mobilize* and *rise* (Geniušienė 1987: 87; Cennamo et al. 2015: 680). Crucially, as already noted by Geniušienė (1987: 108), some verbs allow both a decausative and an autocausative reading, as is the case of Lithuanian *kelia* ‘rise’ in (4a) and (4b), respectively:

(4) Lithuanian (Indo-European; Geniušienė 1987: 108)

- a. *kelia-si rūk-as*  
lifts-ANTC fog-NOM  
‘The fog lifts.’
- b. *zmones kelia-si*  
people lift-ANTC  
‘People get up.’

Finally, it has repeatedly been pointed out that AMs are often polyfunctional and typically also express other valency changing functions such as passive, reflexive, reciprocal and antipassive (thus already Nedjalkov & Silnitsky 1973: 22–24). In particular, drawing from a sample of 222 languages, Bahrt (2021: 147, 150) found that 48 languages feature anticausative syncretic markers whereas only 32 display dedicated AMs. Among syncretic patterns, anticausatives are most often co-expressed with reflexives and less so with passives (Bahrt 2021: 162; Inglese 2022a: 508).

### 3. AMs from reflexives

The reflexive and the anticausative diatheses are frequently co-expressed in the world's languages and this recurrent polyfunctionality pattern has diachronically been explained as the result of the grammaticalization of reflexive markers into AMs. A well-studied case is that of the development of Proto-Indo-European reflexive *\*swe* into the reflexive-anticausative marker of several Romance, Germanic, and Balto-Slavic languages (this is actually part of a wider development of reflexives into middle markers, see Geniušienė 1987; Kemmer 1993: 151–193; Cennamo 1993; Holvoet 2020 for discussion). For example, while Latin *se* essentially functioned as a reflexive marker, as in (5), its French continuant *se* also acquired an anticausative function (Heidinger 2010), as in (6), in which *se fondre* ‘melt (intr.)’ is the anticausative counterpart of transitive *fondre* ‘melt (tr.)’.<sup>4</sup>

(5) Latin (Indo-European; Pinkster 2015: 262)

*occido* ‘kill’ → *se occidere* ‘kill oneself’

(6) French (Indo-European; Heidinger 2010: 80)

*ils se fondent aux rayons du soleil* [...]

3PL ANTC melt.PRS.3PL in.DEF.3PL ray.PL of sun

‘They [= hearts] melt in the rays of the sun’.

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<sup>4</sup> Anticausative usages of *se* occur already in Latin, so that the REFLEXIVE > ANTICAUSATIVE shift must have happened at an early date (Cennamo et al. 2015; Martínez Rojas et al. 2021). I refer to Cennamo (2020a; 2020b) for a more extensive discussion of the development of reflexives from Latin to Romance languages.

Reflexives are only compatible with agentive subjects, whereas anticausatives typically involve non-agentive subjects. This is why the development from reflexive to anticausative is semantically described as entailing a loss of agency and control restrictions (Haspelmath 1993b: 44; Heine 2002: 89; Heidinger 2010: 55–65). In this shift, a key role is arguably played by motion verbs, which, as discussed above for example (4), are compatible with both autocausative and decausative interpretations (Holvoet 2020: 118–119; Inglese 2020: 236–237). Once reflexives extend to motion verbs, they develop into autocausative markers, and they can subsequently be generalized as AMs with all verb bases, including decausatives. This means that the shift REFLEXIVE > ANTICAUSATIVE can more accurately be described as REFLEXIVE > AUTOCAUSATIVE > DECAUSATIVE (Haspelmath 1987: 29). A sketch of this development can be found in (7).

- (7) STAGE I: reflexive marking with typically two-participant events, e.g. *hit oneself* [+ control, + animacy]  
STAGE II: reflexive marking extended to verbs of motion, which are also compatible with inanimate subjects, e.g. *move oneself/itself* [ $\pm$  control,  $\pm$  animacy]  
STAGE III: reflexive used in decausative contexts proper, e.g. *melt (itself)* [-control,  $\pm$  animacy]

#### 4. Non-reflexive sources of AMs

The development proposed in (7) is supported by abundant cross-linguistic evidence (Bahrt 2021: 173–175), to the extent that the REFLEXIVE > ANTICAUSATIVE shift is often described as a typologically frequent and unidirectional grammaticalization pathway (e.g. Kuteva et al. 2019: 363).

Non-reflexive sources of AMs have occasionally been mentioned in language-specific studies, but these findings have not yet made their way into the typological literature (but see Haspelmath 1987 for an early discussion). In fact, besides the possibility of anticausatives deriving from passives, no source other than reflexive is mentioned by Zúñiga & Kittilä (2019: 233) and Kuteva et al. (2019: 363). Only recently has Bahrt (2021: Chap. 7) brought together some evidence suggesting the possibility of AMs deriving from non-reflexive voice markers. In the remainder of this section, I discuss evidence for non-reflexive sources of AMs.

#### 4.1. Data and methods

For this paper, I investigated the sources of AMs in a sample of 98 languages, for a total of 112 markers (languages may feature more than one AM). This is a convenience sample that includes data from 47 language families plus 9 isolates (see Appendix). Since this is not a variety sample, I will refrain from making quantitative-based generalizations from it.

I have included in my sample only AMs that comply with the following criteria: (i) they occur on the noncausal member in either anticausativizing or equipollent verb pairs; (ii) if they are syncretic, they do not encode reflexivity; (iii) they must be used with at least decausative verbs (i.e., with inanimate non-controlling Patients).

Let me briefly comment upon the choice of these criteria. According to some scholars (e.g. Haspelmath 2016: 39 fn. 5), the label AM should be restricted to markers on noncausal verbs in anticausative patterns proper, as in (1). In this paper, I rather follow Bahrt (2021: 38–39) and extend the definition of AM so as to include markers of noncausal verbs in equipollent pairs, as in (3). The reason to do so is that there is little evidence that equipollent noncausal markers are different in nature than those found in anticausative patterns proper. In fact, one finds languages in which the same marker can be used in both equipollent and anticausative patterns, so that the choice of the pattern is ultimately independent from the marker itself (see examples in Sections 4.5.2 and 4.7.4).

Since I am interested in exploring non-reflexive sources of AMs, criterion (ii) is meant to exclude those markers that synchronically also function as reflexives, because with these the widespread assumption is that the reflexive function must be historically prior (Section 3; but see Section 4.7.4 for a critical discussion). Note that I am aware that lack of a synchronic reflexive function does not necessarily exclude a reflexive origin, as this original function might simply have been lost in the course of time. A case in point is the suffix *-əm* in the Musqueam dialect of Halkomelem. This suffix productively occurs, among other things, in both anticausative and antipassive function, as in (8a-b), but never in prototypical reflexive contexts.

(8) Musqueam, Halkomelem (Salishan; Suttles 2004: 230–231)

- a. *hánək<sup>w</sup>-əm* ‘get warm’ vs. *hánək<sup>w</sup>-t* ‘warm something up’  
 b. *sól-əm* ‘spin (wool)’ vs. *sól-ət* ‘spin something’



However, as discussed by Gerdts & Hukari (2006), there are good reasons to believe that the Halkomelem  $-(ə)m$  ultimately goes back to a reflexive source. Once the original meaning of the suffix was progressively bleached as it extended to new functions, including anticausative and antipassive, it was replaced in reflexive function by a newly created reflexive  $-\thetaət$  (on this type of reflexive renewal see Kemmer 1993: Chap 5).<sup>5</sup> For this reason, I have excluded from my sample also AMs which synchronically do not also function as reflexive markers, but for which a reflexive origin is nonetheless likely.

Criterion (iii) is meant to exclude constructions that do not encode prototypical anticausativization (see Zúñiga & Kittilä 2019: 43–48). For example, a construction that I have excluded from my sample is the Yakkha marker  $-siʔ$ . This suffix does function as an intransitivizer, but it is consistently associated with involuntary or unintentional actions and is restricted to animate subjects (Schackow 2015: 307–309), as in (9). Similarly, I have also excluded intransitivizers that only derive resultative/stative verbs, e.g. Ket (Yeniseian)  $-jə-$  (Vajda 2015: 664).

(9) Yakkha (Sino-Tibetan; Schackow 2015: 307)

*mendhwak = ci phaps-a-sy-a-ci*

goat = NSG      entangle-PST-INTR-PST-[3]DU

‘The two goats lost their way.’

AMs that I have identified thanks to the criteria (i) – (iii) fall into morphosyntactic types already well-known from previous cross-linguistic studies (e.g. Haspelmath 1990; Nichols et al. 2004). These include both analytic (auxiliaries, clitics) and synthetic strategies (affixation, morphophonological alternations, conjugation class change). In total, I have collected 112 AMs: the mismatch between the number of languages and that of markers is due to the fact that some languages feature more than one AM. This is the case of Huarjio (Uto-Aztecan), where both the suffixes  $-i$  and  $-pa$  function as AMs (Félix Armendáriz 2005: 222–228).

As is it often the case in studies of diachronic typology, for most of the languages under analysis one cannot rely on the necessary historical documentation to track down the actual source of AMs. Instead, one must operate with indirect evidence

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<sup>5</sup> The reflexive suffix  $-\thetaət$  also extended to anticausative contexts and to the derivation of change-of-state verbs from stative roots, e.g. *nás* ‘fat’ → *nás-θət* ‘get fat’, thus intruding into the anticausative domain (Suttles 2004: 244).

based on comparative and/or internal reconstruction (Sansò 2020: 407–408). Even then, for several AMs a specific lexical source cannot be pinned down with certainty. For example, Siar-Lak (Austronesian) features an anticausative prefix *ta(k)-* (Frowein 2011: 274–279). Comparative evidence shows that this prefix goes back to a reconstructable Proto-Oceanic prefix *\*ta-*, for which however no further lexical source can be reconstructed (Pawley 1972: 39). Similarly, Zenzontepec Chatino (Otomanguean) has an anticausative suffix *-y* (Campbell 2015: 1408–1409). This suffix is a continuant of a reconstructable Proto-Zapotecan intransitivizing suffix *\*-i*, which however lacks further etymology (Campbell 2011: 238). I have treated these and similar cases as having an unknown source, on par with cases in which no etymology for a given AM is given.

The overview of the sources of AMs attested in my sample is given in Table 1. For the sake of exposition, sources are grouped in six main groups: lexical verbs, spatial markers, spontaneous events, aspectual markers, nominalizations and verbalizations and non-reflexive voice markers (plus a seventh group for unknown sources). In the next sections, I shall discuss each group in more detail. In particular, I focus on the semantic features of the source construction that might have triggered the emergence of the anticausative function and discuss possible bridging contexts for such shifts (see Heine 2002; Sansò 2017).

Type of source	Frequency
Lexical verbs	32
Spatial markers	2
Spontaneous events markers	2
Aspectual markers	6
Nominalizers and verbalizers	3
Non-reflexive voice markers	4
Unknown source	63

**Table 1:** Sources of AMs

#### **4.2. Lexical verbs > AMs**

Lexical verbs constitute a well-known source of voice marking (see Kuteva et al. 2019, e.g. EAT > PASSIVE, DO > CAUSATIVE), so that it comes as no surprise that they may also turn into AMs. This shift follows the well-known grammaticalization path whereby

lexical verbs evolve into grammatical markers (e.g. Lehmann 2015: 35–39). In our case, lexical verbs first develop a grammatical meaning when used in various types of analytic constructions, either combined with other verbs in auxiliary or serial verb constructions or combined with nouns or ideophones in light verb constructions, and out of these contexts they may eventually develop into bound anticausative morphology.<sup>6</sup>

Elaborating upon a distinction proposed by Haspelmath (1990) for sources of passive markers, verbal sources of AMs can further be distinguished into intransitive inactive verbs ('be', 'become', 'happen', 'suffer', 'fall'), intransitive active verbs ('go'), and transitive verbs ('do', 'say', 'get', 'give', 'hit').<sup>7</sup>

#### 4.2.1. Intransitive inactive verbs

The AMs discussed in this section go back to intransitive inactive verbs, that is, monovalent verbs featuring a non-controlling/non-agentive subject (Haspelmath 1990: 38). Let us begin by considering analytic anticausative constructions. Quite unsurprisingly, verbs meaning 'be' and 'become', which constitute frequent sources of various types of auxiliaries cross-linguistically (Anderson 2006: 359), may also be involved in anticausative analytic constructions. Two examples are Lezgian *ʃun* 'be(come)' in (10) and Hindi *honā* 'be' in (11). Note that the two patterns are different. Lezgian *ʃun* can rightfully be described as an auxiliary, as it combines with a verb stem. By contrast, Hindi *honā* is involved in a light verb construction (Shamin 2018) in combination with nominal and adjectival bases, giving rise to an equipollent opposition with its causative counterpart *karnā* 'do'.

(10) Lezgian (Nakh-Daghestanian; Haspelmath 1993a: 165–166)

*bašlamišun* 'finish (tr.)' → *bašlamiš ʃun* 'finish (intr.)'

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<sup>6</sup> According to Haspelmath (1990: 40), in the case of periphrastic passive constructions "it is misleading to attribute the passive function to the auxiliary" because the passive meaning component usually comes from the verbal form with which the auxiliary combines, typically a passive participle. This does not entirely hold for the sources of anticausatives surveyed in Sections 4.2.1 to 4.2.3, given that both inactive and active intransitive verbs actively contribute with an inherent change-of-state lexical semantics to the analytic constructions in which they are involved (Section 5.1).

<sup>7</sup> In yet other cases, AMs go back to verbal elements whose precise lexical nature remains unknown. For example, the Creek (Muskogean) suffix *-k-* (Martin 2011: 216–218) is reconstructed as going back to a Pre-Proto-Muskogean auxiliary verb *\*-ka* (Haas 1977: 528–529), whose semantics cannot however be reconstructed.

(11) Hindi (Indo-European; Koul 2008: 102)

<i>daraāzā</i>	<i>band</i>	<i>karo</i>	vs.	<i>daraāzā</i>	<i>band</i>	<i>huā</i>
door	close	CAUS		door	close	ANTC
'Close the door.'				'The door (was) closed.'		

Other languages offer evidence for later stages of this grammaticalization path (Haspelmath 1990: 38), as in these languages verbs originally meaning 'be(come)' have yielded derivational bound affixes. This is the case of the Huaylas Ancash Quechua (Quechuan) suffix *-ka*, historically connected with the verb *ka* 'be' (Parker 1976: 116), as well as of AMs in a number of Pama-Nyungan languages, such as the Ngaanyatjarra suffix *-ri*, which is likely cognate with the Warlpiri (Pama-Nyungan) verb *jarri* 'become' (McGregor 2002: 144; this might possibly be further traced back to a verb 'fall', McGregor 2013: 120; see below).

Other intransitive inactive sources of AMs are 'happen', 'suffer' and 'fall'. The Rama (Chibchan) verb *ting* 'happen' is involved in compound verb forms with anticausative meaning in equipollent contrast with *uung* 'do, make', e.g. *tup-ting* 'sink (intr.)' vs. *tup-uung* 'sink (tr.)' (Grinevald 1990: Chap. 5, 21). The Vietnamese (Austroasiatic) auxiliary verb *bị* 'suffer' has given rise to analytic constructions often described as passive in the literature (Haspelmath 1990: 41; Kuteva et al. 2019: 414) but it can also occur in anticausative equipollent verb pairs in contrast with causative *làm* 'do, make', e.g. *làm/bị ốm* 'make/get sick' (see discussion in Simpson & Tâm 2013; Bruening & Tran 2015).

A verb *ti* 'fall, disappear' is the source of the Korean AM *-eci* (Ahn & Yap 2017: 444; Yap & Ahn 2019: 19–20). Already in 15<sup>th</sup> century texts, the verb *ti*- is used either with its full lexical meaning, as in (12a), or as the second member of serial verb constructions (linked to preceding verb by means of a linking vowel), in (12b). Ahn & Yap (2017) argue that in these serial verb constructions *ti*- underwent semantic bleaching, lost its spatial 'downwards' component and fused with the preceding linker to yield a new AM *-eti*-, attested already in the 17<sup>th</sup> century, as in (12c).

(12) Korean (Koreanic; Ahn & Yap 2017: 444–446)

- a. *apa-nim*    *po-si-ko*    *stah-ay*    *ti-ye*  
 father-HON    see-HON-and    earth-LOC    fall-LNK  
 'Father saw (him) and fell to the ground.'

- b. *sot-a-ti-ye*            →    *sot-ati-ye*  
     pour-LNK-fall-LNK        pour-ANTC-LNK  
     ‘pour and fall’            ‘pour (intr.)’
- c. *elAm-i*    *muntuk*    *phul-ety-e*  
     ice-NOM    suddenly    undo-ANTC-because  
     ‘And because the ice suddenly broke.’

Further evidence for the FALL > ANTICAUSATIVE shift comes from AMs in Pama-Nyungan languages, e.g. Warlpiri *-wanti* and Martuthunira *-npa*, both originally meaning ‘fall’ (McGregor 2002: 140; McGregor 2013: 120). More generally, ‘fall’ verbs have been reported as sources of markers expressing sudden/unexpected events (Anderson 2006: 348), which bear semantic similarities to AMs.

#### 4.2.2. Intransitive active verbs

The label *intransitive active verbs* refers to the motion verbs ‘go’ and ‘come’, which, unlike inactive verbs in Section 4.2.1, feature a controlling and volitional subject. Deictic motion verbs such as ‘go’ have repeatedly pointed out as sources of auxiliaries and voice markers (see Anderson 2006: 345–352; Devos & van der Wal 2014; Kuteva et al. 2019) and also constitute sources of AMs.

For example, in Jaminjung the verb *ijga-* ‘go’, besides other various functions (Schultze-Berndt 2000: 258–266), marks the noncausal member of equipollent alternations in contrast with the causative verb *ma-* ‘hit’, as in (13).<sup>8</sup>

(13) Jaminjung (Mirndi; McGregor 2002: 124)

*bag-ijga-* ‘break (intr., lit. break-go)’ vs. *bag-ma-* ‘break (tr., lit. break-hit)’

A less clear example comes from Mosestén(-Chimané). In this language, anticausativization may be encoded by the polyfunctional suffix *-ki*, as in (14a) (Sakel 2011: 306–312). In addition, a comparable form is found in associated motion

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<sup>8</sup> Another possible example is offered by Italian, where the combination of the verb *andare* ‘go’ plus past participle may encode spontaneous events and does not allow Agent NPs. However, the construction does not constitute a widespread anticausativization strategy, as it is virtually restricted to a subset of negative verbs, typically verbs of destruction, e.g. *la conoscenza andò perduta* ‘knowledge got (lit. went) lost’ (see Mocciaro 2014 for details).

constructions with the meaning ‘go there (to do something)’ (Sakel 2011: 273–275), as in (14b), and both forms are formally similar to the lexical verb *ka-* ‘bring there’. A plausible scenario is that the verb *ka-* ‘bring/go there’ was first used in combination with other verbs in coverb constructions expressing associated motion, as in (14b), and later extended to the anticausative use. Interestingly, a spontaneous change-of-state semantics is found in lexicalized usages of associated motion *-ki*, as in (14c).

(14) Mosestén (isolate, South America; Sakel 2007: 328; Sakel 2004: 307, 275)

a. *jofor’yi-* ‘open (tr.)’ → *jofor’ya-ki-* ‘open (intr.)’

b. *phan’-ye-ki-*’

feather-do-go-[3]F[SG]

‘She goes there to ask for feathers.’

c. *ö-yä-ye-ki-*’

F-AD-do-go-[3]F[SG]

‘She is getting better (lit. she is going there).’

Evidence for a ‘come’ origin of AMs also comes from a variety of languages. In Italian, the verb *venire* ‘come’ can be used as a passive auxiliary. As shown by Giacalone-Ramat & Sansò (2014: 31–34), passive *venire* originated out of an earlier anticausative state, already attested in Old Italian, as shown in example (15), in which the periphrasis *vennero smarriti* ‘came to be lost’ constitutes the anticausative counterpart of *smarrirono* ‘lost (tr.)’ (Squartini 2003).

(15) Italian (Indo-European; Squartini 2003: 25)

<i>e</i>	<i>allora</i>	<i>gli</i>	<i>cavalieri</i>	<i>tutti</i>	<b><i>vennero</i></b>	<i>smarriti</i>
and	then	DEF.PL	knight.PL	all.PL	come.PST.3PL	lose.PPP.PL

‘And then all knights got lost.’

Semantically, the development of verbs ‘go’ and ‘come’ into AMs can be linked to a well-known GO/COME > CHANGE-OF-STATE semantic shift (Schultze-Berndt 2000: 262). This shift is based on a conceptual metaphor whereby EVENTS/STATES ARE LOCATIONS and change of state can consequently be conceptualized as a change of location (e.g., Eng. *go mad*; see also Kuteva et al. 2019: 101–102, 204–205). In these metaphorical contexts, the agency and animacy restrictions on the subject of the verb can

progressively be lost, favoring its extension to decausative verbs (e.g., Eng. *go cold*). Note that a comparable metaphorical shift, whereby entry into/exit from a location stands for beginning of an event, also underlies the development of the verbs ‘go’ and ‘come’ into ingressive markers ‘begin to’ (Anderson 2006: 347; Kuteva et al. 2019: 101), and ingressives constitute another source of AMs (Section 4.5.2).

#### 4.2.3. Transitive verbs

Transitive verbs like ‘do’ and ‘give’ typically give rise to causative markers (Zúñiga & Kittilä 2019: 220–221), but, perhaps surprisingly, they may also serve as sources of AMs. Transitive verbs found as sources of AMs in the sample are ‘do’, ‘say’, ‘get’, ‘give’ and ‘hit’.

Ainu features a suffix *-ke* that can be used in anticausative function when opposed to causative verbs in *-V*, as in (16a). The same suffix also has a verbalizing function, as it forms either agent-oriented causative verbs, as in (16b), or change-of-state intransitive verbs from ideophones, as in (16c). In addition, *-ke* is sporadically used in causative contexts, as in (16d) (Bugueva 2015: 473–474).

(16) Ainu (isolate, Eurasia; Bugueva 2015: 449, 473, 451)

- a. *mak-ke* ‘open (intr.)’ vs. *mak-a* ‘open (tr.)’
- b. *su* ‘pan’ → *su-ke* ‘cook (tr.)’
- c. *pat* IDEO → *pat-ke* ‘explode’
- d. *ray* ‘die’ → *ray-ke* ‘kill’

The perhaps puzzling anticausative/causative syncretism of Ainu *-ke* can diachronically be explained as follows. As argued by Bugueva (2015: 473–474), *-ke* can etymologically be traced back to a full verb *\*ki* ‘do’. As a lexical verb, *\*ki* ‘do’ could combine with various non-verbal elements, and these analytic constructions served as basis for its grammaticalization into a verbalizer. Depending on the nature of the element it combines with, verbalizations with *\*ki* shows different semantics (this is a typical feature of verbalizers, see e.g. Karaj & Sansò forth.). When combined with nominal roots the result is a [N *\*ki*] construction ‘do (with) N’ indicating an agent-oriented activity involving the nominal element as instrument/theme, as in (16b), while when combined with ideophones the result is an emission verb ‘do the

IDEO sound’, as in (16c). These are two typical contexts in which ‘do’ verbs occur cross-linguistically: the use as *activity verb* and the use as *verbalizer with sound-symbolic expressions* (Schultze-Berndt 2008: 190–191, 193–194). From the former, the suffix further extended to direct causative contexts, as in (16d), while the latter served as the basis for the development of the anticausative function, as in (16a), based on the fact that emission verbs can easily be interpreted as spontaneous situations involving a non-controlling inanimate participant. Thus, the anticausative and the causative functions of *-ke* independently go back to the verbalizing function of the lexical verb \**ki* ‘do’ (on the connections between ‘do’ and ‘become’ verbs see also more generally Gil 2017). I return to the connection between verbalizers and AMs in Section 4.6.

The verbalizing function with ideophones also plays a key role in the development of ‘say’ verbs into AMs. This development underlies the anticausative use of the suffix *-me* in Bininj Kun-Wok (Gunwinyguan), which according to Alpher et al. (2003: 332–333) goes back to a verb \**me* ‘do, say’, the anticausative function of the *in-* prefix in Semitic languages such as Arabic (Afro-Asiatic; Roset 2018: 247–248), which can be reconstructed as going back to a generic action verb \**n-* ‘say, do, become’ (Kouwenberg 2010: 314–317), and the Yuracare AM *-tA*, likely from the verb *ta-* ‘say’ (Section 4.7.4). Comparable developments have also been discussed for a number of languages from East Africa by Cohen et al. (2002).

Acquisitive ‘get’ verbs are a known source of both anticausative (and also passive) morphology (Lenz & Rawoens 2012; Kuteva et al. 2019: 187–189).<sup>9</sup> According to Gronemeyer (1999), historical corpus evidence from English shows that the development GET > CHANGE-OF-STATE (Kuteva et al. 2019: 186) possibly originated in the use of *get* in locative construction with a Goal, e.g. *get to the shop*. In these constructions, the slot of the Goal was progressively filled first by adverbs and then by adjectives/participles, while the construction kept the general meaning of ‘reaching a goal’. When combined with adjectives/participles, this resulted into an anticausative reading, e.g. *get burned*, partly based on the CHANGE OF STATE IS CHANGE OF LOCATION metaphor discussed in Section 4.2.2. The passive reading of English *get* eventually developed from the anticausative one (Gronemeyer 1999: 29).

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<sup>9</sup> Interestingly, a connection between possession and change-of-state is also documented for several denominal verbalizers that may variously be translated as ‘have N’ or ‘get N’ (Karaj & Sansò forth.).



Another compelling case for a ‘get’ origin of an AM is made by Frellesvig & Withman (2016: 296–306) for the Japanese *-e* suffix.<sup>10</sup> Already in Old Japanese, one finds alternations between stem in *-e* (bigrade) opposed to consonantal stems (quadrigrade). As shown in (17), the *e*-suffixed verbs occurs both in causative, in (17a), and in anticausative function, as in (17b).

(17) Old Japanese (Japonic; Frellesvig & Withman 2016: 291)

- a. *tat-* ‘rise, set out’      →    *tat-e-* ‘raise’  
b. *yak-* ‘burn (tr.)’        →    *yak-e-* ‘burn (intr.)’

The anticausative/causative suffix *-e* derives from the combination of basic stems with the verb *e-* ‘get’, still attested as a full lexical verb in Old Japanese. Both its valency-related functions arose in constructions where the verb *e-* ‘get’ was used with secondary predicates (though probably the causative was formed earlier and remained the predominant pattern). In particular, as argued by Frellesvig & Withman (2016), the anticausative usage likely emerged as the reinterpretation of a secondary predicate transitive construction ‘A gets P to X’ as an intransitive construction denoting a spontaneous event ‘P gets (to) X’. A context in which this reinterpretation might have taken place are occurrences in which the transitive construction features an omitted non-agentive experiencer/goal subject participant, as in (18).

(18) Old Japanese (Japonic; Frellesvig & Withman 2016: 299)

*kari wo tukapi ni e-tesika mo*  
goose ACC messenger be.INF get-OPT even

‘Would that (I) had gotten the wild geese as messengers! > Would the wild geese had become messengers.’

The development of transfer/contact verbs ‘give’ and ‘hit’ into AMs appears to be less common. In the sample, I have only found one possible example of each. The Ingush

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<sup>10</sup> Still, as remarked by Frellesvig & Withman (2016: 308), the English and the Japanese cases are not fully equivalent. The anticausative meaning of the English *get*-constructions is also due to the combination with resultative participles (which inherently indicate a change of state), while in Japanese the verb *e-* ‘get’ is the solely responsible of the change-of-state semantics, as it combines with basic stems.

anticausative marker *-lu*, shown in (19), is homophonous with the verb ‘give’ (Nichols 2011: 491), thus possibly deriving from the latter. In Yagaria, causative transitive verbs can be turned into anticausatives by compounding them with the verb *ei-* ‘hit’, as in (20).<sup>11</sup>

(19) Ingush (Nakh-Daghestanian; Nichols 2011: 751)

*d.iell* ‘open (tr.)’ → *d.iella-lu* ‘open (intr.)’

(20) Yagaria (Nuclear Trans New Guinea; Renck 1975: 154)

*lo’ao-* ‘break (tr.)’ → *ei-lo’ao-* ‘break (intr.)’

Also due to the rarity of these shifts, it is unclear how ‘hit’ and ‘give’ verbs might have grammaticalized as AMs. In the case of ‘hit’, perhaps a role could have been played by constructions in which *hit* denotes a motion event, e.g. *he hit the ground (with his body)*, thus linking the development of *hit* to that of ‘go’ (Section 4.2.1). I return to the development of ‘give’ in Section 4.7.2.

## 5.2. Spatial markers > AMs

In section 4.2.2, I have discussed the developmental path connecting motion verbs to the anticausative domain. In my sample, there are two more cases of AMs that go back to sources with spatial semantics.

The first example is that of the so-called ‘separative’ extension in Bantu languages. Consider the suffix *-uw-* in Chuwabu, which occurs in passive and anticausative contexts, as in (21).

(21) Chuwabu (Atlantic-Congo; Guérois & Bostoen 2018: 212, 219)

a. *mí-ri dhí-ni-ó-j-uw-á na nyenyéle*  
 4-tree SM4-IPFV.DJ-15-eat-PASS-FV by 10a.ant

‘The trees are being eaten by the ants.’

b. *gob-ól-a* ‘break (tr.)’ → *gob-ów-a* ‘break (intr.)’

c. *fúga* ‘shut’ → *fúg-uw-a* ‘open (intr.)’

<sup>11</sup> Renck (1975: 154) also mention that *ei-* ‘hit’ can be compounded with intransitive verbs to add a causative meaning, but no data is given to illustrate this pattern.

Chuwabu *-uw-* goes back to the Proto-Bantu intransitive separative suffix *\*-uk-* (Guérois & Bostoen 2018: 218–222), which in origin indicated “movement out of some original position” (Schadeberg & Bostoen 2019: 185–186).<sup>12</sup> This semantics is especially visible in intransitive ablative motion verbs such as Proto-Bantu *\*-tá-uk-* ‘come from’ (Schadeberg 1982: 61–65). Guérois & Bostoen (2018: 219) link the anticausative function of Chuwabu *-uw-* directly to the reconstructed separative semantics, but how this shift actually took place is not straightforward.

One can hypothesize that the potential bridging context between the separative/ablative and the anticausative functions was the reversive function displayed by outcomes of *\*-uk-* in several Bantu languages, such as Fwe in (21c). The ABLATIVE > REVERSIVE shift can be motivated by a metaphorical extension whereby inverting the state resulting from an event can be conceived as exit from a location (Gibert-Sotelo 2018). In some contexts, reversive verbs in fact encode spontaneous change-of-state events, possibly only physical in origin, as in (21c), but secondarily also involving more abstract situations, as in (22). It is out of the latter that *\*-uk-* was possibly reinterpreted as an AM proper.

(22) Fwe (Atlantic-Congo; Gunnik 2018: 234)

*-rwârà* ‘become sick’ → *-rwárùkà* ‘become better’

The second, albeit less assured, case comes from Moskona (East Bird’s Head). In this language, anticausativization is expressed by adding to transitive verbs an enclitic element =*ef*, which elsewhere serves as a proximal demonstrative enclitic ‘near’, e.g. *og* ‘bend (tr.)’ → *og=i-ef* ‘bend (intr.)’ (Gravelle 2010: 123–125, 196). The historical relationship between the deictic and the AM functions of Moskona =*ef* remains unclear, but it is possible that the deictic function is prior, as it is the only one attested for the cognate demonstrative *if* ‘this’ in the closely related language Meyah (Gravelle 2002: 149–150). Perhaps the development of Moskona =*ef* can be linked to the development of deictic motion verbs into anticausatives (Section 4.2.2).

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<sup>12</sup> On the polyfunctionality of outcomes of Proto-Bantu *\*-uk-* in individual Bantu languages see Dom et al. (2016: 140–143).

#### 4.4. Spontaneous events > AM

AMs may emerge from markers that encode of spontaneous events. In fact, a historical link between the two is not surprising, given that both encode uncontrolled events (Fauconnier 2011: 323–327).

Sino-Tibetan languages offer a case in point. As shown in Table 2, in languages such as Galo and Northern Pumi anticausativization is expressed by an alternation between voiceless and voiced onsets of verbal roots, with the intransitive member being associated with the voiced variants.

Language	‘break (tr.)’	‘break (intr.)’	Source
Galo (Macro-Tani)	<i>tíř-</i>	<i>díř-</i>	(Post 2007: 97)
Northern Pumi (Burmo-Qlangic)	<i>tʰwǎ</i>	<i>ɖwǎ</i>	(Daudey 2014: 295)
Japhug (Burmo-Qlangic)	<i>prɣt</i>	<i>mbrɣt</i>	(Jacques 2021: 917)

**Table 2:** The anticausative alternation in Sino-Tibetan languages

The origin of this alternation is a much-discussed topic in Sino-Tibetan linguistics: some scholars argue that the direction of the derivation is from transitive to intransitive, with voicing reflecting an intransitivizing prefix \*N-, while others argue for de-voicing of transitive verbs due to a causative prefix \*s- (see Handel 2012 for an overview). As argued by Jacques (2015; 2021: 918–922) and Gates et al. (2022), decisive evidence in favor of an intransitivizing origin of the pattern comes from Gyalrongic languages. This is particularly clear in Japhug, in which anticausativization is expressed by pre-nasalization of transitive roots. For example, pre-nasalization of the transitive verb *prɣt* ‘break’ yields anticausative *mbrɣt* ‘break (intr.)’. This pre-nasalization historically underlies the pre-voicing pattern in Table 2.

Jacques goes one step further and argues that anticausative pre-nasalization in Japhug is historically connected with the ‘autive’ prefix *nu-* (Jacques 2021: 967–982). This prefix is used either to encode self-benefactive events of various types (but never in reflexive contexts proper) or it can be added to intransitive verbs to indicate that the event takes place spontaneously or accidentally. The prefix is never connected with a change in transitivity, and can likewise occur with intransitive and transitive verbs, as in (23a-b).

(23) Japhug (Sino-Tibetan; Jacques 2021: 974, 975)

a. *ɲu-ku-nu-βze*

IPFV-SUBJ:PTCP-AUTO-grow

‘It grows by itself.’

b. *k<sup>h</sup>utsa pu-nu-qru-t-a*

bowl AOR-AUTO-break-PST:TR-1SG

‘I broke the bowl (by mistake).’

Jacques hypothesizes that both anticausative pre-nasalization and the ‘spontaneous’ use of *nu-* ultimately derive from a common source which he reconstructs as a “nasal prefix expressing spontaneous/non-volitive actions” (2015: 18), and which was not originally connected with intransitivization (see Fauconnier 2011 on the link between involuntary agent constructions and transitivity). Evidence for this comes also from rare voicing pairs where both members are syntactically transitive, e.g. Khaling (Himalayish) *plum-* ‘rinse in water’ vs. *blum-* ‘sink in water’. It is only later that outcomes of this prefix become associated with transitivity change, hence turning into AMs.

A connection with spontaneous events has also been proposed for two anticausativization strategies found in ancient Indo-European languages. The first example is that of the Old Indo-Aryan suffix *-yá-*, which is continued by AMs/passive markers of modern Indo-Aryan languages, as is the case of Palula *-ĩj-* in (24a-b) (Liljegren 2016: 240–241).

(24) Palula (Indo-European; Liljegren 2016: 241)

a. *bilá-* ‘melt (tr.)’ → *bil-ĩj-* ‘melt (intr.)’

b. *de-* ‘give’ → *da-ĩj-* ‘be given’

The origin of passive *-yá-* in Indo-Aryan still constitutes a disputed topic among specialists (see Lazzeroni 2004; Kulikov 2012; Luraghi et al. 2021 with references). There is a consensus that the passive function of *-yá-* is likely secondary and must be connected with the Sanskrit 4<sup>th</sup> class presents in *-ya-*, which were also associated with the anticausative alternation, especially when opposed to causative suffixes such as *-áya-*, e.g. *nás-ya-ti* ‘perish’ vs. *nās-áya-ti* ‘make disappear’ (Kulikov 2012: 727–729).

According to Lazzeroni (2004), intransitivization was however not the original function of *-ya-*, which was instead connected with the characterization of spontaneous (unaccusative) change-of-state events.<sup>13</sup>

A similar scenario has also been proposed for the origin of the Active vs. Middle voice alternation in ancient Indo-European languages such as Hittite, Ancient Greek and Latin. For reasons of space, I will not discuss the details here (see Lazzeroni 1990; Luraghi 2012; Inglese 2020: Chap 3).<sup>14</sup> In short, scholars have argued that in Proto-Indo-European verbal voice originally followed a lexical distribution, with the Middle inflection specifically being confined to verbs indicating uncontrolled change-of-state events or states, e.g., Lat. *morior* and Hitt. *kištari* ‘die’. Out of this original middle-only group, voice alternation with anticausative function first arose, e.g. Hitt. *zinnizi* ‘finish.ACT (tr.)’ vs. *zinnatari* ‘finish.MID (intr.)’, and was later extended to other functions such as the passive.

#### 4.5. Aspectual markers > AMs

In a number of languages, AMs go back to aspectual-like markers (here broadly understood as per Croft 2012). The three sources that I have detected in the sample are resultative, ingressive and stative markers.

##### 4.5.1. Resultative markers > AMs

Resultative markers indicate “a state that was brought about by some action in the past” (Bybee et al. 1994: 63) and bear notorious resemblances to anticausatives (Zúñiga & Kittilä 2019: 43), thus making the RESULTATIVE > AM shift unsurprising.<sup>15</sup> Recall for example that anticausative *get*-constructions in English are built by combining *get* with resultative participles. Another language that instantiates the RESULTATIVE > AM shift is possibly Hausa. The Hausa suffix *-u* shows a variety of

<sup>13</sup> The ultimate source of Indo-Aryan *-ya-* remains highly contested. For a discussion of possible etymologies see Kulikov (2012: 748–759) and Willi (2018: 582 fn. 60).

<sup>14</sup> None of these languages has been included in my sample because their Middle inflection synchronically also shows a reflexive function, which is however historically secondary with respect to the anticausative one (see Inglese 2020: 235–237).

<sup>15</sup> Vajda (2015: 657–658) discusses the existence of anticausative verbs in Ket featuring a suffix *-j-* etymologically connected with resultative *-jə-*. However, since from the available data it is not clear whether *-j-* complies with the criteria laid out in Section 4.1, I have excluded it from my sample.

functions (Jaggar 2001: 260–267), including proper resultative and anticausative, as in (25a-b). Jaggar (1988: 405–408) reconstructs Hausa *-u* as the outcome of the Proto-Chadic resultative suffix *\*-k<sup>w</sup>o*, so that the resultative function is likely to be historically prior.

(25) Hausa (Afro-Asiatic; Jaggar 2001: 263, 264, 267)

a. *fas-à* ‘smash’ vs. *fàs-u* ‘(the glass) is smashed’

b. *kad-à* ‘shake (tr.)’ vs. *kàd-u* ‘shake (intr.)’

#### 4.5.2. Ingressives > AMs

That AMs may also be associated with ingressive semantics has already been noted by Haspelmath (1987: 34). An ingressive source might be proposed for the Filomeno Mata Totonac prefix *ta-*. Among its various functions, the prefix can be used in anticausative verb pairs following two patterns (McFarland 2009: 182–186). First, it may stand in an equipollent opposition to causative *maa-*, as in (26a). This pattern is limited to roots that never occur in isolation. Second, *ta-* can also be used as an AMs attached to unmarked transitive verbs, as in (26b). In addition, the prefix shows an ingressive, or ‘inceptive’ (McFarland 2009: 144), use, by creating dynamic motion verbs when added to a close set of so-called positional verbs, i.e. stative roots indicating location, as in (26c).

(26) Filomeno Mata Totonac (Totonacan; McFarland 2009: 185, 184, 109)

a. *maa-čaw-ii* ‘open (tr.)’ vs. *ta-čawa* ‘open (intr.)’

b. *lak-ponqa* ‘knock down (tr.)’ → *ta-lak-ponqa* ‘fall down’

c. *-xuu-* ‘inside’ → *ta-xuu-maa* ‘he’s getting inside’

Even though the etymology of Filomeno Mata Totonac *ta-* remains unknown, one can tentatively sketch the following diachronic scenario.<sup>16</sup> A comparable prefix occurs in

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<sup>16</sup> McFarland (2009: 96) mentions a possible connection with the prefix *ta-* found in result nominalizations, e.g. *pink* ‘split (tr.)’ → *ta-pínk* ‘split (intr.)’ and *ta-pínk* ‘the crack’. This connection remains speculative, and might be due to chance, but note that a NOMINALIZATION > ANTICAUSATIVE development is perfectly conceivable (Section 4.6).

virtually every Totonacan language, both of the Totonac and the Tepehua branches (Beck 2012: 593), and its range of functions greatly varies: in some languages, such as Upper Naxaca, it also occurs with autocausative and grooming verbs (Beck 2011: 15), while in other it also has a passive/resultative meaning, as in e.g. Yecuatla (or Misantla) Totonac (MacKay 1999: 257). Nevertheless, the ingressive function seems to be widespread among the family and indeed the prefix is only compatible with stative verbs in the languages of the Tepehua branch (Kung 2007: 287). In particular, other Totonacan languages attest to the existence of a pattern similar to (26c), but in which a stative root co-exists alongside a *ta*-form with change-of-state semantics and a causative *ma*-form, as in the Upper Naxaca example in (27):

(27) Upper Naxaca Totonac (Totonacan; Beck 2011: 35)

*lakí*: ‘be open’ vs. *ta-lakí*: ‘open (intr.)’ vs. *ma-lakí*: ‘open (tr.)’

One may speculate that the ingressive function with stative verbs shown in (26c) and (27) is older and served as the source for the development of *ta*- into an AM. This was possibly favored by the loss of the original stative root, as in Filomeno Mata (26a), so that both the change-of-state and the spontaneous semantic components were reinterpreted as being expressed by *ta*- alone. Once reinterpreted as an AM, *ta*- could be extended to transitive verbs in an anticausativization pattern proper, as in (26b).

Further comparative work on *ta*- in Totonacan might shed light on the likelihood of this reconstruction, but a good typological parallel comes from Latin. As discussed in Inglese (2021: 148–153 with references), Latin features a peculiar pattern of anticausativization for some stative roots, whereby alongside a bare stative root one finds a telic spontaneous counterpart with a suffix *-sc-* and a causative counterpart with *-facio* ‘make’, as in (28a). This pattern is reminiscent of that found in Upper Naxaca Totonac in (27).

(28) Latin (Inglese 2021: 149)

a. *pateo* ‘be open’ vs. *patesco* ‘open up’ vs. *patefacio* ‘open (tr.)’

b. *tremo* ‘tremble’ vs. *tremesco* ‘start shaking’ vs. *tremefacio* ‘make tremble’

c. *morbus* ‘illness’ → *morbesco* ‘fall ill’ vs. *morbificio* ‘make ill’



In pairs such as (28a), the suffix *-sc-* arguably only adds a telic meaning component to stative roots. This aspectual meaning is particularly clear when the verb applies to atelic but dynamic roots such as *tremo* ‘shake’ in (28b), with which it gives an ingressive reading ‘start shaking’. However, *-sc-* alone may also function as an equipollent AM, especially in the case of verbs derived from nominal roots for which a corresponding stative verb is lacking, as in (28c). This anticausativization function of Latin *-sc-* is secondary. In fact, comparative evidence robustly points towards an original aspectual use of the Proto-Indo-European suffix *\*-ské/o-*, connected with imperfectivity, atelicity and pluractionality (Berrettoni 1971; Inglese & Mattiola 2020: 286–291; Inglese 2021: 151). Out of this original meaning, the ingressive semantics only developed in combination with atelic roots (as evidenced already by Hittite; Inglese & Mattiola 2020), and from there it was further extended to stative roots, thus leading to the change-of-state and eventually anticausative semantics.

#### 4.5.3. Stative markers > AMs

A connection between stativity and anticausativization has traditionally been reconstructed for Ancient Greek *-ē-*. This suffix is described in reference grammars as a dedicated passive affix in the Aorist system, as in (29a), but in fact it also functions as an AM (Allan 2003: Chap. 3; Romagno 2014), as shown in (29b).

(29) Ancient Greek (Indo-European; Allan 2003: 95, 99)

- a. *éplēksa* ‘hit’ vs. *eplég-ē* ‘was hit’  
b. *ékausa* ‘burned (tr.)’ vs. *éka-ē* ‘burned (intr.)’

Much has been written about the origin of the *ē*-aorist in Greek (see Luraghi et al. 2021: 14–16 for an overview), but the general consensus is that it derives from the Proto-Indo-European stative suffix *\*-eh<sub>1</sub>-* (e.g. Willi 2018: 15). Outside of Greek, this suffix predominantly occurs with stative verbs, e.g. Latin *rub-ē-o* ‘be red’, Hittite *marš-e-* ‘be false, corrupted’, and this is taken as evidence to reconstruct an original intransitive stative semantics for Proto-Indo-European *\*-eh<sub>1</sub>-* (thus Ruijth 2004).<sup>17</sup> The

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<sup>17</sup> Ancient Greek features another ‘passive’ Aorist suffix *-thē-* which also functions as AM. This suffix is reconstructed as a Greek combination of stative *\*-eh<sub>1</sub>-* with a suffix *\*-dh-*, the latter possibly resultative in origin (Luraghi et al. 2021: 14–16 with references). A comparable suffix *-th-* is also found in the

anticausative function of Greek *-ē-* likely emerged in its combination with the Aorist and was facilitated by the semantic proximity between stative markers and AMs, both typically denoting uncontrolled situations (thus Haspelmath 1990: 51–52).<sup>18</sup>

A stative origin has also been proposed for AMs in Tibeto-Burman languages. In Bunan, the suffix *-s* performs an anticausative function, among its various usages, as in (30a), and it also occurs with some inherently stative verbs, as in (30b) (Widmer 2018: 361–382). Based on comparable suffixes showing also a reflexive function in other Tibeto-Burman languages, LaPolla (1996: 3) reconstructs a reflexive origin for Proto-Tibeto-Burman *\*-si*, from which both the stative and the anticausative use emerged.

(30) Bunan (Sino-Tibetan; Widmer 2018: 363)

a. *al-t̥-um* ‘open (tr.)’ vs. *al-s-̣-um* ‘open (intr.)’

b. *noŋs-men* ‘be spoilt’, *t<sup>h</sup>os-men* ‘be high’

However, an alternative reconstruction has been proposed by Matisoff (2003: 471–472), who connects *\*-si* with the Sino-Tibetan nominalizing stative suffix *\*-s*, as attested in e.g. Tibetan *za* ‘eat’ → *zas* ‘food’ (Jacques 2016). How a (stative) nominalizing suffix can turn into an AM remains a matter of speculation, and I return to this point in Section 4.6.

#### 4.6. Nominalizers and verbalizers > AMs

Nominalizers and verbalizers constitute a well-known sources of voice morphology, including passives and antipassives (Sansò 2016; 2017), and there is evidence that

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formation of present stem verbs with anticausative function, e.g. *phlég-ō* ‘burn (tr.)’ vs. *phlegé-th-ō* ‘burn (intr.)’ (see Magni 2010). If so, Greek *-thē-* provides further evidence for the RESULTATIVE > ANTICAUSATIVE shift discussed in Section 4.5.3.

<sup>18</sup> This is admittedly not the only possible scenario. In fact, to account for the shift from stative to change-of-state semantics, Ruijh (2004: 59–61) himself propose that the anticausative/passive meaning actually arose only in combination with the Aorist formant *\*-s-* and that Ancient Greek *-ē-* thus goes back to *\*-eh<sub>1</sub>-s-*. Other scholars instead have argued that the Proto-Indo-European suffix *\*-eh<sub>1</sub>-* was not simply stative but that a change-of-state component must be reconstructed for the proto-language as well (e.g., Hardarson 1998), so that one cannot state with certainty which semantic component was the original one. Finally, particularly interesting is a proposal that links stative *\*-eh<sub>1</sub>-* to the nominal instrumental case ending (Jasanoff 2004): in this view, the suffix was originally used in stative nominal predications ‘X is endowed with N-*eh<sub>1</sub>-*’ and was later reinterpreted as a denominative verbal suffix ‘X is/becomes V-*eh<sub>1</sub>-*’.

they can also give rise to AMs. This is not entirely surprising and a synchronic association between AMs and denominal verbalizers has already been noted in the literature (Haspelmath 1987: 33; Aikhenvald 2011: 244–245; Grestenberger 2016: 105).

In Section 4.5.3, I have mentioned the stative nominalizer \*-s as a possible source of the Tibeto-Burman AM -s-. A potential parallel is discussed by Authier (2012) for the AM -aR- of Kryz and other related Nakh-Daghestanian languages. In Kryz, the suffix -aR- can be used for anticausativization (as well as other voice operations), as in (31a), and a comparable suffix is found in nominalizations, as in (31b-c).

(31) Kryz (Nakh-Daghestanian; Authier 2012: 149, 160)

- a. <sup>ʔ</sup>uf-a- ‘open (tr.)’ vs. <sup>ʔ</sup>uf-**ar**- ‘open (intr.)’
- b. ke-xh-r-ic ‘move’ → xh-**ar** ‘wind (lit. the moving)’
- c. x-irayc ‘weave’ → x-**al** ‘roof; cobweb (lit. the woven)’

Based on comparative evidence, Authier argues that the nominalizing function of -aR- in (31b-c) is historically older. He further hypothesizes that these deverbal nouns with S or P orientation ‘V-ing, V-ed’ could have been used in predicative function ‘X (is a) V-ing/ed’ and that out of these contexts, deverbal nouns could have been reinterpreted as intransitive V-aR- verbs. This is possibly how -aR- developed into a voice marker encoding anticausativization.

Verbalizers may also be sources of AMs. In Section 4.2.3, I have discussed how in their development into AMs ‘do, say’ verbs first go through a stage in which the function as verbalizers with ideophones (see also Section 4.7.4). Karaj & Sansò (forth.) propose a verbalizing origin also for AMs in Malayic languages. For example, in Malay (Austronesian) the prefix *bər-* also occurs in anticausative contexts, e.g. *tolak* ‘push someone away’ → *bər-tolak* ‘shove off’. As argued by Karaj & Sansò (forth.), this prefix goes back to Proto-Malayic \*(*mb*)AR-, which can be reconstructed as a verbalizer deriving either activities/states or change-of-state verbs from nouns. Out of the latter, the prefix further developed a full-fledged anticausative function.

A brief digression is in order on the status of inchoative verbalizers as AMs. Verbalizers that create (spontaneous) change-of-state events ‘become X’ from adjectives and nouns have been reported for several languages, and these often go back to lexical verbs meaning ‘(be)come’ or ‘do’ (Aikhenvald 2011: 232, 237; Mattiola

& Sansò 2021). However, inchoative verbalizers can rightfully be described as AMs only when they participate in the anticausative alternation (criterion (i) in Section 4.1). An example from Misantra Totonac will serve to illustrate this point. Misantra Totonac features two synthetic strategies to create denominal verbs meaning ‘become X’: the suffixes *-nan* and *-la* (MacKay 1999: 339–342).<sup>19</sup> While both suffixes derive inchoative verbs from nominals, as in (32a-b), only *-nan* also occurs as an intransitivizer with causative (denominal) stems, as in (32c). This means that while *-nan* qualifies as an AM, *-la* does not.<sup>20</sup>

(32) Misantra Totonac (Totonacan; MacKay 1999: 339, 341)

- a. *haks-ta* ‘smelly place’ → *haks-ta-nan* ‘become smelly’  
 b. *siski* ‘sweet’ → *siski-la* ‘become sweet’  
 c. *papaks-nV<sup>?</sup>-ii* ‘make old’ → *papaks-nV<sup>?</sup>-ii-nan* ‘grow old’

#### 4.7. Non-reflexive voice markers > AMs

As already mentioned, reflexives are commonly held to be the main valency-related source of AMs (Section 3). However, there is an increasing body of evidence suggesting that also voice markers originally dedicated to other valency operations may also extend to the anticausative domain (Bahrt 2021: Chap. 7).

##### 4.7.1. Passive markers > AMs

While there is ample evidence that anticausatives may develop into passives (e.g. Haspelmath 1990), the reverse shift, that is PASSIVE > ANTICAUSATIVE, is held to be

<sup>19</sup> The latter can in fact either occur bound to nominal roots or in isolation taking its own inflection and is cognate to the Upper Necaxa Totonac verb *la* ‘do, make, become’ (Beck 2011: 204).

<sup>20</sup> MacKay (1999: 339) does not discuss the etymology of *-nan*, but it is strikingly similar to the antipassive suffix *-nan*, which is widely attested in the Totonacan family (Beck forthc.) and possibly derives from a suffix for agent nominalizations (Sansò 2017: 180–181). A connection between anticausative and antipassive *-nan* can tentatively be sought in the use of *-nan* as a verbalizer: as discussed by Beck (2008: 17), in Upper Necaxa Totonac *-nan* can be used to derive activity verbs from nouns, e.g. *tfanáx* ‘coa’ → *tfanax-nán* ‘work with a coa’, or from ideophones, e.g. *ftayayá* ‘object gliding’ → *ftayayá-nán* ‘glide’. Notably, the latter may also encode non-volitional events, and thus may have served as bridge towards the inchoative and anticausative functions (see also Section 4.2.3).

much rarer. This shift has been proposed by Kulikov (2011) for various passive formations in Vedic Sanskrit (Indo-European). In his view, this development was mostly confined to experiencer verbs and the bridging contexts was provided by impersonalized passives: when these verbs were used with generic human Agents, they were reinterpreted as encoding spontaneous events, e.g. *śru-* ‘hear’ > *śrū-yá-te* ‘be heard (by someone)’ > ‘be audible’ (on the etymology of *-yá-* see Section 4.4).

Evidence for comparable developments remains rather scanty. In my sample, one possible instance comes from Tzeltal. In this language, the infix <*j*> can be used in both anticausative and passive function, as in (33a-b), but the latter is probably original, as the infix is reconstructed as a passive infix \* <*h*> in Proto-Mayan (Polian 2013: 292). Note however that Tzeltal <*j*> has a much wider anticausative usage than the one discussed for Vedic by Kulikov (2011), so that it is doubtful whether the PASSIVE > ANTICAUSATIVE shift in Mayan took place following the same path.

(33) Tzeltal (Mayan; Polian 2013: 291, 293)

- a. *tsak* ‘take’ → *tsa<j>k* ‘be taken’  
b. *puk* ‘melt (tr.)’ → *pu<j>k* ‘melt (intr.)’

#### 4.7.2. Causative markers > AMs

Causative markers have mostly been discussed as sources of passive markers (e.g. Haspelmath 1990: 46–49, Bahrt 2021: 216–218), but they are also connected to AMs (cf. Kittilä 2000). This connection should sound less surprising in light of the discussion in Section 4.2.3 on the development of transitive verbs into AMs. In the case of syncretic causative-anticausative(-passive) markers, it is commonly believed that it is the causative meaning that gives rise to the anticausative one, as compelling evidence of the reverse development has not yet been found (cf. Bahrt 2021: 107–109, 214–215). Besides the examples discussed in Section 4.2.3, further possible candidates for the CAUSATIVE > AM shift comes from Tungusic languages and from Korean.

Tungusic languages feature cognate suffixes with either anticausative or passive function, as Even *-b* in (34) and Evenki *-v/-p* in (35). The situation of Manchu is slightly different: here the suffix *-bu* shows either passive or causative functions, as in (36), but it never functions as an AM.

(34) Even (Tungusic; Malchukov & Nadjalkov 2015: 598)

*aŋa-* ‘open (tr.)’ → *aŋa-b-* ‘open (intr.)’

(35) Evenki (Tungusic; Malchukov & Nadjalkov 2015: 609)

*ula-* ‘make wet’ → *ula-v-/ula-p-* ‘become wet’

(36) Manchu (Tungusic; Malchukov & Nadjalkov 2015: 610)

*va-* ‘kill’ → *va-bu-* ‘make kill, be killed’

Comparative evidence shows that Even *-b-*, Evenki *-b-/v-* and Manchu *-bu-* historically all derive from a lexical verb *\*-bu-* ‘give’ (Nadjalkov 1993). According to Malchukov & Nadjalkov (2015: 608–612), the most likely diachronic scenario is that Tungusic *\*-bu-* ‘give’ first developed into a causative marker, subsequently shifted to a passive function, as shown in Manchu, and in languages such as Even and Evenki the passive served as basis for the anticausative function. Both developments are compatible with the known grammaticalization path that links ‘give’ verbs with causatives and passives (Kuteva et al. 2019: 195–196, 198–199). In other words, in Malchukov & Nadjalkov’s account, the passive is an intermediate bridging context in the CAUSATIVE > PASSIVE > AM shift.

While this might be true for Tungusic languages, a direct CAUSATIVE > AM shift has been hypothesized for Korean by Yap & Ahn (2019). Besides the anticausative marker *-eci* discussed in (12), Korean also feature a syncretic voice marker *-i* with (at least) causative, anticausative and passive functions, as in (37a-c):

(37) Korean (Koreanic; Yap & Ahn 2019: 2, 6, 11)

a. *emma-ka aki-eykey cec-ul mek-y-ess-ta*  
 mother-NOM baby-DAT breast-ACC eat-CAUS-PST-DEC  
 ‘Mother breast-fed her baby.’

b. *pang-mwun-i cecello camk-y-ess-ta*  
 room-door-NOM by\_itself lock-ANTC-PST-DEC  
 ‘The door of (my) room locked by itself.’

c. *manhun mwulkoki-tul-i sange-eykey capamek-hy-ess-ta*  
 lots\_of fish-PL-NOM shark-DAT eat-PASS-PST-DEC  
 ‘A lot of fish got eaten by the shark.’

Unfortunately, the lexical source of Korean *-i* is yet unknown (Yap & Ahn 2019: 20). Taken at face value, the polyfunctionality of Korean *-i* is compatible with the development CAUSATIVE > PASSIVE > ANTICAUSATIVE proposed for Tungusic *\*-bu* by Malchukov & Nedjalkov (2015). However, the available historical data does not fully support this scenario: while the causative usage of *-i* is clearly primary, since it is attested already in Old Korean documents dating to the 10<sup>th</sup> century, the anticausative and the passive functions both first appear in Middle Korean texts of the 15<sup>th</sup> century (Yap & Ahn 2019: 15). To account for this chronological distribution, Yap & Ahn (2019: 16–19) argue in favor of the existence of two independent developments CAUSATIVE > PASSIVE and CAUSATIVE > ANTICAUSATIVE. Concerning the latter, they propose that a crucial bridging might have been reflexive-causatives constructions, as in (38), which, in absence of an overt Causee Agent and of a body-part expression (omitted for e.g., politeness reasons), were liable to be reinterpreted as intransitive constructions. Once *-i* started being used in intransitive constructions, it could have well been extended to anticausative contexts proper featuring a omission of the causee ‘(someone) closed the gate’ > ‘the gate closed’.

(38) Korean (Koreanic; Yap & Ahn 2019: 17)

*namwu tok-(k)uy . . . (ne-eykey) koloī kulk-hi-ketun*  
tree poison-NOM 2SG-DAT painfully scratch-CAUS-if

‘If the poison of a tree causes (you) to scratch (yourself) badly’ → ‘If the poison of a tree scratches badly’.

#### 4.7.3. Reciprocal markers > AMs

Reciprocals remain a lesser explored source of AMs. A possible example comes from Bantu languages.<sup>21</sup> In Orungu, the suffix *-an* can be used in both reciprocal and anticausative function, as shown in (39a-b).<sup>22</sup>

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<sup>21</sup> Other putative examples of the RECIPROCAL > ANTICAUSATIVE shift are discussed by Bahrt (2021: 192–195). However, since the markers discussed by Bahrt also display a reflexive function, I have excluded them from my sample.

<sup>22</sup> See Bostoen & Nzang-Bie (2010: 1276–1283) and Bostoen et al. (2015) for an exhaustive discussion of the polysemy of *-an* in various Bantu languages.

(39) Orungu (Atlantic-Congo; Ambouroué 2007: 191)

- a. *-ròndà* ‘love’ → *-ròndàrà* ‘love each other’  
 b. *-βùrà* ‘bend (tr.)’ → *-βùràrà* ‘bend (intr.)’

Comparative evidence suggests that the reciprocal meaning is primary and the suffix is reconstructable to Proto-Bantu as an associative/reciprocal suffix *\*-an*, etymologically related to the comitative preposition *n(a)-* ‘with’ (Schadeberg & Bostoen 2019: 174, 182–184). Bostoen et al. (2015) suggest that the link between the reciprocal and anticausative use of *\*-an* should be sought in the fact that both situations are associated with low elaboration of events (Kemmer 1993; Lichtenberk 2000). This view is partly questionable, in that it is not clear why anticausatives should feature low degree of elaboration of events/participants, as they are simply one-participant events (see Inglese 2022a: 521). More importantly, it does not explain how and out of which contexts the anticausative meaning actually arose. Based on data from Hittite, Inglese (2020: 238–239) argues that a possible bridging context between reciprocals and anticausatives is offered by the class of lexical spatial reciprocals of the type ‘gather (intr.)’. These, much in the same vein as autocausatives, may also license non-agentive subjects, e.g. ‘the leaves gathered (because of the wind)’, thus giving rise to a spontaneous reading which can be then extended to decausative verbs proper. More research is needed to assess the likelihood of this diachronic scenario for Bantu languages.

#### 4.7.4. AM > reflexive markers?

As discussed in Section 4.1, I have excluded from my sample those markers that besides anticausatives synchronically also function as reflexives, based on the widespread assumption that with these the reflexive function must be the original one. Nevertheless, there is evidence that syncretic anticausative/reflexive markers can also originate from non-reflexive sources and develop a reflexive function only after the anticausative one. If this is correct, then the numbers in Table 1 underestimate the actual frequency of non-reflexive sources of anticausatives. For reasons of space, I will only discuss the case of Yuracare and refer to Inglese (2022b) for other possible examples.



Yuracare features a suffix *-tA* that functions, among other things, as an anticausative and reflexive marker (van Gijn 2010). Notably, while in reflexive usage the suffix *-tA* is opposed to unmarked transitive verbs, as in (40a), in its anticausative function it typically stands in an equipollent alternation with verbs marked by causative suffixes such as *-pi* or *-che*, as in (40b).

(40) Yuracare (isolate, South America; van Gijn 2010: 277, 278)

a. *chumë* ‘cut (tr.)’ → *chumë-të* ‘cut oneself’

b. *pishij-pi* ‘break (tr.)’ vs. *pishij-ta* ‘break (intr.)’

c. *dürrüm ta-ø = ya*

IDEO.SI say-3 = REP

“Broom” it went.’

Van Gijn (2010) convincingly shows that *-tA* is etymologically connected to the verb *ta-* ‘say’. As a full verb, *ta-* could be involved in combinations with sound-imitating ideophones ‘say X’, as in (40a). Following the developmental trajectory discussed in Section 4.2.3, *ta-* was progressively extended to other visual and more abstract ideophones, thus undergoing semantic bleaching, and also became morphologically bound to the preceding ideophone. As a result, it effectively grammaticalized into a new suffix *-ta* ‘say, be, become, do X’ which essentially functioned as a verbalizer creating intransitive change-of-state verbs (Section 4.6). At this point, IDEO-*ta* verbs started being paired with the independently created causative constructions IDEO-*che/pi* (or other suffixes), thereby giving rise to an equipollent anticausative alternation. Confirmation for this reconstruction comes from the fact that most roots that take part in the pattern (40b) are in fact ideophones. The anticausative use of *-tA* served as basis for the extension to other valency-reducing functions, including the reflexive, which must therefore be secondary.

How the ANTICAUSATIVE > REFLEXIVE shift actually takes place remains unclear. Inglese (2020: 236–237) argues that a key role is played by autocasative motion verbs, which, due to their intermediate semantic status, may serve as bridging contexts between reflexives and anticausatives in either direction (see Section 2). A crucial piece of evidence in support of the scenario proposed in Inglese (2020) comes from the fact that markers that originate out of non-agentive sources may partially extend to the autocasative domain without ever fully expanding to reflexive contexts

proper (in some cases, the only reflexive-like verb discussed in the sources is ‘hide’, whose reflexive status is however questionable). For example, the Teltzal infix <*j*>, which derives from a passive source (Section 4.7.1), is also attested with the anticausative verb *lijk* ‘rise (oneself) up’ (Polian 2013: 293), or the Hausa suffix *-u* of resultative origin (Section 4.5.1), is also used with the anticausative reciprocal verb *târ-u-* ‘(the doctors) gather’ (Jaggar 2001: 265). This evidence suggests that anticausatives are not necessarily an extension of reflexive verbs as an intermediate step in the REFLEXIVE > ANTICAUSATIVE shift (Section 3), but that they may actually arise as a direct extension of decausative markers proper to contexts with more agent-like subjects.

## 5. Discussion

### 5.1. *Where do AMs come from?*

In Section 4, I have shown that AMs cross-linguistically derive from a much more varied pool of sources than what is reported in the typological literature. Overall, the changes whereby the source constructions surveyed in Sections 4.2 to 4.7 develop into AMs boil down to two general paths.

Sources that already lexicalize an uncontrolled change-of-state semantics are particularly suitable to turn into AMs. This is the case of verbs ‘become’ and of spontaneous event markers. Other sources first undergo some intermediate, often metaphorical, semantic shifts in order to acquire change-of-state semantics. For example, intransitive inactive verbs all inherently denote uncontrolled change-of-state events undergone by a Patient participant, and they all first develop into ‘be(come)’ verbs and subsequently into anticausatives. The verb ‘go’ acquires a change-of-state component metaphorically through its change-of-location semantics, and this might be the case of other deictic spatial sources. Acquisitive verbs ‘get’ also develop into anticausative markers through a stage in which they function as motion verbs. Ablative sources possibly first acquire a reversive function, which out of some contexts may give rise to the anticausative semantics. Finally, aspectual sources share different semantic components with anticausatives: ingressesives and resultatives already lexicalize a change-of-state component, while stative markers feature the necessary uncontrolled semantics. All these cases can be subsumed under a more general (SOURCE) > BECOME > ANTICAUSATIVE shift.

Transitive verbs do not obviously share any semantic component with AMs. Their development into anticausatives follows two trajectories. Generic action verbs ‘do, say’ first develop into inchoative verbalizers (especially when combined with ideophones) and subsequently into anticausatives. Other transitive verbs, e.g. ‘give’ (and partly ‘get’), likely go through an intermediate stage as causative markers.

For other sources, the connection with anticausatives lies with intransitivization, as these sources lack a spontaneous change-of-state component. Instead, all these constructions are first reinterpreted as (agentless) intransitive verb constructions and eventually extend to anticausative contexts. This is the case of (predicative) nominalizers and of non-reflexive voice markers. Concerning the latter, the specific mechanisms are quite varied. Causatives either first develop into passives, or they directly develop into anticausatives due to the reinterpretation of agentless constructions as intransitive ones. Passives possibly develop into anticausatives via impersonalization. Finally, reciprocals license an anticausative-like reading only with verbs that lexically encode symmetric spatial relations (e.g., *gather*).

Note also that the same source can turn into an AM following multiple pathways, as is the case of verbs ‘get’, which either follow the trajectory of motion verbs or that of causatives (Section 4.2.3). The pathways of development of AMs can be schematized in the network in Figure 1.<sup>23</sup>

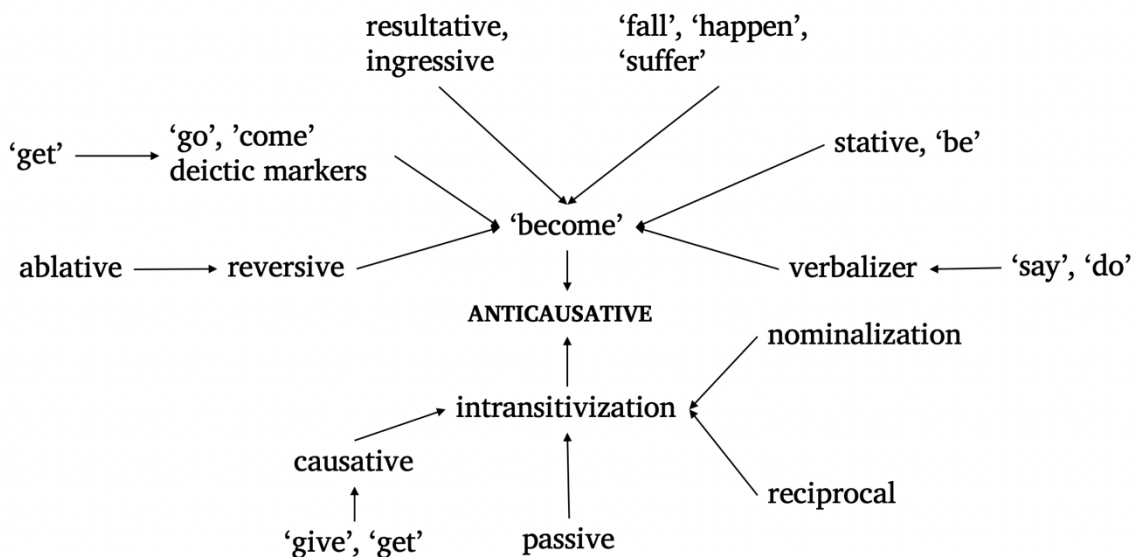


Figure 1: The origin of AMs

<sup>23</sup> The network merely visualizes how the various sources relate to the anticausative function, but by no means constitute a semantic map of anticausativization in the technical sense of Georgakopoulos & Polis (2018). A semantic map of anticausativization has been proposed by Haspelmath (1987: 35).

## 5.2. *How does the anticausative alternation come about?*

In Section 4, I have investigated the (lexical) sources of AMs in the languages of the world. A distinct question concerns how the anticausative alternation emerges in the first place. Addressing this question falls out of the scope of this paper, so that I will limit myself to some preliminary considerations here.

The developmental pathways of AMs discussed in Section 5.1 partly account for how individual AMs start being involved in the anticausative alternation. As hinted in Section 4.6, in the case of BECOME-sources the anticausative alternation only emerges once noncausal BECOME-verbs start being paired with corresponding causal verbs, as discussed for the Yurakare suffix *-tA* (Section 4.7.4). Notably, in this scenario the rise of the anticausative alternation constitutes a logically distinct and secondary phenomenon with respect to the diachronic processes that lead individual sources to develop a spontaneous change-of-state semantics. By contrast, INTRANSITIVIZING-source constructions are already involved in a transitivity alternation to begin with (with the likely exception of nominalizers), so that with these the anticausative alternation constitutes the result of individual sources extending to the expression of spontaneous change-of-state events.

Another question concerns the origin of anticausative and equipollent patterns. In principle, one may speculate that specific source types will preferably give rise to either pattern. For example, AMs that go back to light verb constructions with ‘do, say’ verbs might be expected to give rise to equipollent patterns, as their causal counterpart will likely be marked by a corresponding causative light verb, as is the case of Hindi in (11) and Jaminjung in (13) (as similar scenario may hold for several BECOME-sources). By contrast, sources that already combine with verbs in auxiliary verb constructions, coverb constructions or serial verb constructions might be connected with the anticausative pattern, as shown by Lezgian in (10), Mose-tén in (14) and Korean in (12), respectively.<sup>24</sup> Unfortunately, in most cases we lack the necessary historical evidence to assess the syntactic pattern in which sources of AMs originally occurred, so that this hypothesis cannot be thoroughly tested at present.

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<sup>24</sup> I owe this observation to one of the anonymous reviewers.

Source	Anticausative pattern	Equipollent pattern
Lexical verbs	14	17
‘be(come)’	5	4
‘come’	1	0
‘do’	0	2
‘fall’	1	2
‘get’	2	0
‘give’	1	1
‘go’	2	2
‘happen’	0	1
‘hit’	1	0
‘say, do’	1	4
‘suffer’	0	1
Spatial markers	2	1
Spontaneous events markers	1	1
Aspectual markers	4	3
Nominalizers and verbalizers	3	-
Non-reflexive voice markers	4	1

**Table 3:** Sources of AMs and types of alternation

At any rate, the data from my sample, shown in Table 3, only partially supports the idea that the nature of the source construction determines the preference for one pattern over the other.<sup>25</sup> For example, as expected voice markers seem to preferably give rise to anticausative patterns and so do verbalizers and nominalizers. For the other source types no clear pattern can be detected, even if one considers the more fine-grained etymology of lexical verb sources, in part because the numbers are so small that they do not allow compelling generalizations. Nevertheless, the fact that there appears to be a weak link between type of sources and types of patterns further supports to the idea that markers that occur in the two patterns are not different in nature (see Section 4.1).

### 5.3. *Are anticausative a type of reflexives?*

Especially in formally-oriented research, which has mostly focused on syncretic reflexive-anticausative markers in Germanic and Romance languages, the relationship between reflexives and anticausatives has been the object of much discussion focusing

<sup>25</sup> AMs that are in both detransitivizing and equipollent pairs have been counted twice in Table 3.

on whether anticausatives constitute a type of reflexives or not (see Tubino-Blanco 2020: 22–29). According to some authors, for example Koontz-Garboden (2009), anticausativization is in fact a type of reflexivization. This view has been challenged by e.g. Horvath & Siloni (2011), who instead argue that anticausativization must be kept distinct from reflexivity proper, despite the fact that the two may be co-expressed. Indeed, Koontz-Garboden (2009: 92) maintains that “a compelling argument for the reflexivization approach to anticausativization comes from the fact that anticausativization and reflexivization are very commonly marked identically to one another cross-linguistically.” I do not wish to enter here into the debate concerning the status of reflexives and anticausatives, but I would like to point out that the syncretism argument made by Koontz-Garboden (2009) is a rather weak one, since, as demonstrated in this paper, languages often feature non-reflexive anticausativization strategies. In particular, the diachronic evidence discussed in this paper shows that AMs can arise out of source constructions that have little or nothing to do with reflexivity, so that it is not clear how a reflexive analysis may be viable for these.

## 6. Conclusions

In this paper, I have offered a detailed discussion of the sources and processes that lead to the rise of AMs in a sample of 98 languages. Against the *communis opinio* that AMs invariably grammaticalize out of reflexive and passive markers, I have shown that AMs in fact emerge out of a much wider pool of sources in the languages of the world. I have also discussed how the variety of sources observed in fact boils down to two main developmental paths: individual sources develop into AMs either because they are prone to developing a change-of-state semantics or because they are connected with intransitivity. Another interesting finding is that there does not appear to exist a strong correlation between types of sources and the type of morphosyntactic pattern in which individual AMs are involved in terms of the anticausative vs. equipollent distinction. This speaks to the fact that AMs can rightfully be considered so irrespective of the pattern in which they occur. More research is needed to better understand how and why the two patterns come about. Finally, the diachronic evidence presented in this paper on non-reflexive sources of AMs also compels us to rethink the purported connection between reflexivity and anticausativization, and suggests that anticausativization, at least historically, is a phenomenon of its own.

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## Abbreviations

1 = 1 <sup>st</sup> person	DJ = disjoint	OPT = optative
2 = 2 <sup>nd</sup> person	DU = dual	PASS = passive
3 = 3 <sup>rd</sup> person	F = feminine	PTCP = participle
ACC = accusative	FV = final vowel	PL = plural
AD = adessive relation	HON = honorific	PRS = present
ANTC = anticausative	IDEO = ideophone	PPP = past passive participle
AOR = aorist	INF = infinitive	PST = past
AUTO = autive	INTR = intransitive	REP = reportative
CAUS = causative	IPFV = imperfective	SUBJ = subject
DAT = dative	LKN = linking element	SG = singular
DEC = declarative	LOC = locative	SI = sound imitation
DEF = definite article	NOM = nominative	TR = transitive
DET = determiner	NSG = non-singular	

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**Appendix: language sample**

The sample used in this study derives from the combination of various existing samples of AMs and voice markers more generally (Nichols et al. 2004; Hartmann et al. 2013; Muysken et al. 2016; Bahrt 2021; Inglese 2022a) to which I have also added languages from other sources. Language names and genealogical classification are taken from Glottolog, consulted on 30/08/2022.

Language	Glottocode	Family	Marker	Origin	References
Afar	afar1241	Afro-Asiatic	Aux. <i>edhe</i>	verb ‘say, do’	(Cohen et al. 2002)
Ainu	ainu1251	Ainu	Suff. <i>-ke</i>	verb ‘do’	(Bugaeva 2015)
Alabama	alab1237	Muskogean	Infix <i>-li</i>	unknown	(Hardy & Montler 1991)
Ancient Greek	anci1242	Indo-European	Suff. <i>-th(ē)</i>	resultative	(Luraghi et al. 2021)
Ancient Greek	anci1242	Indo-European	Suff. <i>-ē</i>	stative	(Luraghi et al. 2021)
Apinayé	apin1244	Nuclear-Macro-Je	<i>a</i> -series prefixes	unknown	(Cunha de Oliveira 2005)
Arabic, Sudanese	suda1236	Afro-Asiatic	Pref. <i>in-</i>	verb ‘say, do’	(Kouwenberg 2010; Roset 2018)
Balanta (Ganja)	bala1302	Atlantic-Congo	Suff. <i>-le</i>	unknown	(Creissels & Biaye 2016)
Basque	basq1248	Isolate	Aux. <i>da</i>	verb ‘be’	(Hualde & de Urbina 2003)
Bidyogo	bidy1244	Atlantic-Congo	Suff. <i>-ok</i>	verb ‘be’	(Segerer 2002)
Bininj Kun-Wok	gunw1252	Gunwinyguan	Suff. <i>-me</i>	verb ‘say, do’	(Evans 2003)
Bribri	brib1243	Chibchan	Suff. <i>-r</i>	unknown	(Pacchiarotti & Kulikov 2022)

Bunan	gahr1239	Sino-Tibetan	Suff. <i>-s</i>	stative	(Widmer 2018)
Canela	cane1242	Nuclear-Macro-Je	Pref. <i>-pi</i>	unknown	(de Castro Alves 2004)
Central Alaskan Yupik	cent2127	Eskimo-Aleut	Intransitive inflection	unknown	(Mithun 2000)
Chukchi	chuk1273	Chukotko-Kamchatkan	Suff. <i>-et</i>	unknown	(Dunn 1999)
Chuwabu	chuw1238	Atlantic-Congo	Suff. <i>-uw</i>	separative	(Guérois 2015)
Creek	cree1270	Muskogean	Suff. <i>-k</i>	auxiliary	(Hardy 1994; Martin 2011)
Cupeño	cupe1243	Uto-Aztecan	Suff. <i>-yax</i>	unknown	(Hill 2005; Hill & Hill 2019)
Dâw	daww1239	Naduhup	Tone shift	unknown	(Martins 2004)
East Kewa	east2516	Nuclear Trans New Guinea	Suff. <i>-ba/bi</i>	unknown	(Yarapea 2006)
East Khanty	east2774	Uralic	Suff. <i>-uj</i>	unknown	(Filchenko 2007)
Eastern Mari	east2328	Uralic	Conj. <i>-am</i>	unknown	(Alhoniemi 1993)
English	stan1293	Indo-European	Verb <i>get</i>	verb 'get'	(Gronemeyer 1999)
Even	even1260	Tungusic	Suff. <i>-b</i>	causative	(Malchukov & Nedjalkov 2015)
Even	even1260	Tungusic	Suff. <i>-rga</i>	unknown	(Malchukov & Nedjalkov 2015)
Even	even1260	Tungusic	Suff. <i>-lbe</i>	unknown	(Malchukov & Nedjalkov 2015)
Fang	fang1247	Atlantic-Congo	Suff. <i>-əbə</i>	unknown	(Bostoen & Nzang-Bie 2010)

Fwe	fwee1238	Atlantic-Congo	Suff. <i>-ahar</i>	unknown	(Gunnik 2018)
Galo	galo1242	Sino-Tibetan	Prevoicing	spontaneous	(Post 2007)
Garrwa	gara1269	Garrwan	Suff. <i>-j</i> (Class 2 verbs)	unknown	(Mushin 2012)
Hamer-Banna	hame1242	Afro-Asiatic	Suff. <i>-(a)?</i>	unknown	(Petrollino 2016)
Hanis	coos1249	Coosan	Suff. <i>-ē</i>	unknown	(Frachtenberg 1922)
Hausa	haus1257	Afro-Asiatic	Grade 7	resultative	(Jaggar 1988; Jaggar 2001)
Hidatsa	hida1246	Siouan	Middle inflection	unknown	(Park 2012)
Highland Totonac	high1243	Totonacan	Suff. <i>-kan</i>	unknown	(Troiani 2007)
Hindi	hind1269	Indo-European	Aux. <i>hona</i> ‘be’	verb ‘be’	(Koul 2008)
Hinukh	hinu1240	Nakh-Daghestanian	Suff. <i>-t</i>	unknown	(Forker 2013)
Ho	hooo1248	Austroasiatic	Suff. <i>-en</i>	unknown	(Pucilowski 2013)
Hokkaido Japanese	hokk1249	Japonic	Suff. <i>-rasar</i>	unknown	(Sasaki 2016)
Huambisa	huam1247	Chicham	Suff. <i>-na</i>	unknown	(Peña 2015)
Huarijio	huar1255	Uto-Aztecan	Suff. <i>-i</i>	unknown	(Armendáriz 2005)
Huarijio	huar1255	Uto-Aztecan	Suff. <i>-pa</i>	unknown	(Armendáriz 2005)
Huave, San Dionisio-San Mateo	sand1278	Huavean	Suff. <i>-j</i>	unknown	(Kim 2005; Salminen 2016)
Huaylas Ancash Quechua	huay1240	Quechuan	Suff. <i>-ka</i>	verb ‘be’	(Parker 1976)
Humburi Senni Songhay	humb1243	Songhay	Tone shift	unknown	(Heath 2014)



Ik	ikkk1242	Kuliak	Suff. <i>-Vm</i>	unknown	(Schrock 2017)
Ingush	ingu1240	Nakh-Daghestanian	Suff. <i>-lu</i>	verb ‘give’	(Nichols 2011)
Ingush	ingu1240	Nakh-Daghestanian	Aux. <i>d.uoda</i>	verb ‘go’	(Nichols 2011)
Italian	ital1282	Indo-European	Aux. <i>venire</i>	verb ‘come’	(Squartini 2003)
Italian	ital1282	Indo-European	Aux. <i>andare</i>	verb ‘go’	(Mocciaro 2014)
Jaminjung	jami1236	Mirndi	Suff. <i>-ijga</i>	verb ‘go’	(McGregor 2013)
Jaminjung	jami1236	Mirndi	Verb <i>-yu(nngu)</i>	verb ‘say, do’	(Schultze-Berndt 2000)
Japanese	nucl1643	Japonic	Suff. <i>-ar</i>	unknown	(Narrog 2016; Frellesvig & Whitman 2016)
Japanese	nucl1643	Japonic	Suff. <i>-e</i>	verb ‘get’	(Narrog 2016; Frellesvig & Whitman 2016)
Khmer (Central)	cent1989	Austroasiatic	Pref. <i>ra-</i>	unknown	(Haiman 2011)
Korean	kore1280	Koreanic	Suff. <i>-i</i>	causative	(Yeon & Brown 2011; Yap & Ahn 2019)
Korean	kore1280	Koreanic	Suff. <i>-eci</i>	verb ‘fall’	(Yeon & Brown 2011; Ahn & Yap 2017)
Krongo	kron1241	Kadugli-Krongo	Suff. <i>-ani</i>	unknown	(Reh 1985)
Krongo	kron1241	Kadugli-Krongo	Suff. <i>-i</i>	unknown	(Reh 1985)
Kryz	kryt1240	Nakh-Daghestanian	Suff. <i>-aR</i>	nominalizer	(Authier 2012)
Kusunda	kusu1250	Isolate	Suff. <i>-q</i>	unknown	(Watters 2006)
Kutenai	kute1249	Isolate	Suff. <i>-p</i>	unknown	(Morgan 1991)
Latin	lati1261	Indo-European	Suff. <i>-sc</i>	ingressive	(Inglese 2021)
Lezgian	lezg1247	Nakh-Daghestanian	Aux. <i>χun</i> ‘be’	verb ‘become’	(Haspelmath 1993)
Majang	maja1242	Surmic	Suff. <i>-(d)i<sup>L</sup></i>	unknown	(Joswig 2019)

Malay	mala1479	Austronesian	Pref. <i>bər</i>	verbalizer	(Karaj & Sansò forth.)
Maléku Jaíka	male1297	Chibchan	Suff. <i>-ti</i>	unknown	(Constenla Umaña 1998)
Mansi (Northern)	mans1258	Uralic	Suff. <i>-l</i>	unknown	(Rombandeeva 1973; Riese 2001)
Martuthunira	mart1255	Pama-Nyungan	Suff. <i>-npa</i>	verb ‘fall’	(Dench 1995)
Molale	mola1238	Isolate	Pref. <i>-taŋ</i>	verb ‘do’	(Pharris 2006)
Momu-Fas	fass1245	Balbai-Fas	Suff. <i>-ni/-nu</i>	unknown	(Honeyman 2017)
Mongolian	mong1331	Mongolic-Khitán	Suff. <i>-r</i>	unknown	(Kullmann & Tserenpil 2008; Janhunen 2012)
Mosetén-Chimané	mose1249	Isolate	Suff. <i>-ki</i>	verb ‘go’	(Sakel 2007, 2011)
Moskona	mosk1236	East Bird’s Head	Clitic = <i>ef</i>	spatial	(Gravelle 2010)
Ngaanyatjarra	ngaa1240	Pama-Nyungan	Suff. <i>-ri</i>	verb ‘become’	(McGregor 2013)
Ohlone, Southern	sout2986	Miwok-Costanoan	Suff. <i>-n(i)</i>	unknown	(Okrand 1977)
Orungu	orun1242	Atlantic-Congo	Suff. <i>-an</i>	reciprocal	(Ambouroué 2007)
Palula	phal1254	Indo-European	Suff. <i>-ŋ</i>	spontaneous	(Liljegren 2016)
Purepecha	pure1242	Tarascan	Suff. <i>-ra</i>	unknown	(Nava & Maldonado 2004)
Purepecha	pure1242	Tarascan	Suff. <i>-ku</i>	unknown	(Nava & Maldonado 2004)
Rama	rama1270	Chibchan	Suff. <i>-ting</i>	verb ‘happen’	(Grinevald 1990)
Romani, Vlax	vlax1238	Indo-European	Suff. <i>-uv</i>	verb ‘become’	(Wagner 2012)
Rotokas	roto1249	North Bougainville	Class A verbs	unknown	(Robinson 2011)
Salinan	sali1253	Isolate	Pref. <i>k-</i>	unknown	(Turner 1987)
Sandawe	sand1237	Isolate	Suff. <i>-ts̺</i>	unknown	(Steeman 2012)
Sandawe	sand1237	Isolate	Suff. <i>-ts̺</i>	unknown	(Steeman 2012)

Savosavo	savo1255	Isolate	Suff. <i>-za</i>	unknown	(Wegener 2012)
Shawi	chay1248	Cahuapanan	Pref. <i>-ya</i>	unknown	(Rojas Berscia 2013)
Siar-Lak	siar1238	Austronesian	Pref. <i>ta(k)-</i>	unknown	(Frowein 2011)
Sidaama	sida1246	Afro-Asiatic	Suff. <i>-am</i>	unknown	(Kawachi 2007)
Tamasheq	tama1365	Afro-Asiatic	Pref. <i>m-/n- /nvy-</i>	unknown	(Heath 2005)
Telefol	tele1256	Nuclear Trans New Guinea	Aux. <i>tébemin</i>	verb ‘become’	(Healey 1965)
Tigre	tigr1270	Afro-Asiatic	Aux. <i>bala</i>	verb ‘say, do’	(Cohen et al. 2002)
Totonac (Filomeno Mata)	filo1235	Totonacan	Pref. <i>ta-</i>	ingressive	(McFarland 2009)
Tzeltal	tzel1254	Mayan	Inf. <i>&lt;j&gt;</i>	passive	(Polian 2013)
Udihe	udih1248	Tungusic	Suff. <i>-ptA/-ktA</i>	unknown	(Nikolaeva & Tolskaya 2001)
Udihe	udih1248	Tungusic	Suff. <i>-kpi</i>	unknown	(Nikolaeva & Tolskaya 2001)
Vietnamese	viet1252	Austroasiatic	Aux. <i>bị</i>	verb ‘suffer’	(Simpson & Tâm 2013; Bruening & Tran 2015)
Warlpiri	warl1254	Pama-Nyungan	Suff. <i>-wanti</i>	verb ‘fall’	(McGregor 2013)
Wolaytta	wola1242	Ta-Ne-Omotiic	Suff. <i>-t</i>	unknown	(Wakasa 2008)
Yagaria	yaga1260	Nuclear Trans New Guinea	Aux. <i>ei-</i>	verb ‘hit’	(Renck 1975)
Yaqui	yaqu1251	Uto-Aztecan	Suff. <i>-te</i>	unknown	(Estrada Fernández et al. 2015)

Yaqui	yaqu1251	Uto-Aztecan	Suff. <i>-tu</i>	verb 'become'	(Estrada Fernández et al. 2015)
Yaul	maru1253	Keram	Pref. <i>na-</i>	unknown	(Barlow 2018)
Yecuatla Totonac	yecu1235	Totonacan	Suff. <i>-nan</i>	verbalizer	(MacKay 1999)
Yeyi	yeyi1239	Atlantic-Congo	Suff. <i>-aak</i>	unknown	(Seidel 2008)
Yimas	yima1243	Lower Sepik-Ramu	Suff. <i>-ara</i>	unknown	(Foley 1991)
Yucatec Maya	yuca1254	Mayan	CVVC pattern	unknown	(Martínez Corripio & Maldonado 2010)
Zaghawa	zagh1240	Saharan	Verb Class 1	unknown	(Jakobi et al. 2004)
Zapotec	zapo1437	Otomanguean	Pref. <i>d-</i>	auxiliary	(López Nicolás 2016)
Zenzontepec Chatino	zenz1235	Otomanguean	Pref. <i>y-</i>	unknown	(Campbell 2015)