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# Precautioning purpose constructions in typological perspective: a functional trade-off between clause-linking devices and tense–aspect–mood (TAM) marking

**Abstract:** The present study explores precautioning purpose constructions in a sample of 71 languages. Languages may use non-specialized clause-linking devices to express precautioning purpose relations, e.g. positive purpose clauses with simply a negative marker being added to the basic proposition (e.g. *I said it so that the child would not touch it*). Moreover, languages may display a specialized clause-linking device (e.g. *she helped the child lest he be sick*). Here it is shown that when precautioning purpose clauses are encoded with a specialized clause-linking device, they will tend to appear with no TAM or with actualized tense–aspect–mood (TAM) markers (e.g. past tense). This stems from the fact that there is no need to have other morphosyntactic material aiding in the meaning of the construction. The specialized clause-linking device is the main feature that helps to evoke the precautioning purpose semantics of the construction. On the other hand, when precautioning purpose clauses are formed with a non-specialized clause-linking device, they will tend to occur with non-actualized TAM markers (e.g. irrealis). In this scenario, a non-actualized TAM marker and a non-specialized clause-linking device work in concert in the expression of the adverbial relation holding between clauses.

**Keywords:** adverbial clause; complex sentence; purpose clause; precaution

# 1 Introduction

One adverbial clause construction that has received little attention in cross-linguistic perspective is that of negative purpose constructions or PRECAUTIONING PURPOSE CONSTRUCTIONS (e.g. *put the food there so that the ants do not eat it*). This construction has been explored for the most part in individual languages (e.g. Angelo and Schultze-Berndt 2016 on Kriol; Lichtenberk 1995 on Toqabaqita; Smith-Dennis 2021 on

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Papapana; Vuillermet 2018 on Ese Ejja), in specific language families (e.g. Daniel and Dobrushina forthcoming on East Caucasian), and in specific macro-areas (e.g. Luk 2023 on Australia), but not from a broad, cross-linguistic perspective. This stems from the fact that samples of various typological studies usually do not contain enough information on this type of adverbial clause construction. For instance, Hetterle (2015: 52) points out that negative purpose clauses do not play a role in her study due to the scarcity of data in her sample.

An exception to this lack of typological studies is Schmidtke-Bode (2009: 130). He mentions that, cross-linguistically, languages may use a non-specialized clause-linking device (e.g. conjunctions or converbs) to express negative purpose, i.e. positive purpose clauses with simply a negative marker being added to the basic proposition, as in Example (1). However, languages may also display a specialized clause-linking device to express negative purpose (a conjunction or converb that is only used in the expression of precautioning purpose), as in Example (2) (see also Kuteva et al. 2019: 863). Precautioning purpose constructions, regardless of whether they are formed with a specialized or non-specialized clause-linking device, convey the idea that a certain situation is performed in order to prevent another one from occurring.

(1)    Huasteca Nahuatl (Uto-Aztecan; huas 1257)
       *yoyon-paka-k* **para amo** *poyewi-skia que tsopilo-tl.*
       clothes-wash-PFV so.that NEG stink-IRR like vulture-ABS
       'He washed her clothes so that she wouldn't stink like a vulture.'
       (Authors' fieldwork)

(2)    Jamiltepec Mixtec (Oto-Manguean; jami 1235)
       *chahan ñā vēhē tyīñō,*
       go.COMPL 3SG.SBJ house work
       'She went to the town hall,
       **kōtō** *tyāa ra kwātyi chaha ñā.*
       lest put 3SG.SBJ sin back 3SG.POSS
       lest he accuse her.'
       (Johnson 1988: 133)

The studies mentioned before have advanced our theoretical understanding of precautioning purpose constructions. In particular, they have provided important insights regarding the balancing and deranking status of the precautioning purpose clause, the argument-structural configurations of the precautioning purpose constructions (Schmidtke-Bode 2009: 131), and the key semantic components of precautioning purpose constructions (Lichtenberk 1995), among others.

One issue of precautioning purpose constructions that has not received a lot of attention in the literature is the following. Non-actualization is the main feature of precautioning purpose clauses since it is a consequence of the fact that the adverbial clause invokes an undesired world that can be avoided by the situation described in the main clause (Verstraete 2006: 204–205). Given that precautioning purpose situations are non-actualized, they are expected to favor tense–aspect–mood (TAM) values that harmonize with this meaning, such as irrealis, as in Example (3), in which the precautioning purpose clause appears with the irrealis marker *ka-*. However, there are languages that do not show this pattern. In Sochiapan Chinantec, precautioning purpose clauses must appear in the remote past tense, as in Example (4). The question is: why do precautioning purpose clauses appear with non-actualized or actualized TAM markers? While this issue has been explored in specific macro-areas (e.g. Australia; Verstraete 2006), it has not been investigated in broad cross-linguistic perspective. The present research attempts to fill this gap by exploring the interaction of TAM in precautioning purpose clauses marked with specialized and non-specialized patterns in a variety sample of 71 languages. The data consist of (sketch) grammars, book chapters, articles, as well as primary data.

(3)     Pisaflores Tepehua (Totonacan; pisa 1237)
        *an    siiwaan    ʔan-łi-č̌a      lii      maa-haantu   **ka**-laʔin-t'i.*
        DET    Juan       go-PFV-COMPL   so.that   EVID-NEG      IRR-go-2SG.SBJ
        'Juan left so that you could not see him.'
        (MacKay and Trechsel 2010: 277)

(4)     Sochiapan Chinantec (Oto-Manguean; soch 1239)
        *bíh^H           ka^L-ho^L*
        AFF             REM.PST-dig.TRANS.INAN.3SG
        'He dug it (the hole),
        *kí^{H^}ni^{M^}li^H    **ka**^{H}-chanh^{MH}.*
        lest            REM.PST-arrive.home.TRANS.INAN.3PL
        lest they (the witches) arrive home.'
        (Ana Martinez personal communication)

The fact that precautioning purpose clauses appear with non-actualized or actualized TAM could be dismissed as random and arbitrary. However, here it is proposed that whether the clause-linking device is specialized or non-specialized is key to this puzzle. When precautioning purpose clauses occur with a specialized clause-linking device, they will tend to occur with no TAM or with actualized TAM markers (e.g. past tense) given that there is no need to have other morphosyntactic material aiding in the meaning of the construction (see Section 3.1). On the other hand, when precautioning purpose clauses appear with a non-specialized clause-linking device, they

will tend to appear with non-actualized TAM markers (e.g. irrealis) that aid in the expression of the precautioning purpose relation holding between clauses (see Section 3.2).

The organization of this paper is as follows. Section 2 introduces terminological and theoretical background. Section 3 describes the method and sample used in the present study. It also explores the interaction of clause-linking devices and TAM markers in precautioning purpose constructions. Section 4 situates the results of the present study with respect to other studies: Verstraete (2006) and Schmidtke-Bode (2009). The conclusions in Section 5 provide a summary of the study and suggest avenues for further research.

# 2 Theoretical preliminaries

This section provides the theoretical and methodological background of this research. In the first part, special attention is paid to precautioning purpose constructions and TAM markers, and, in doing so, we delimit the domain of investigation and establish a conceptual and terminological framework for the entire study. The second part describes the sample used to explore the interaction of clause-linking devices and TAM markers in precautioning purpose constructions and how the sample of the present study was built.

## 2.1 Comparative concepts

Any typological survey requires strict and clear definitions. Accordingly, the present study necessarily requires the adoption of comparative concepts for the definitions of precautioning purpose constructions and TAM markers (cf. Haspelmath 2010). In what follows, we provide comparative concepts of these phenomena.

### 2.1.1 Precautioning purpose constructions

Precautioning purpose constructions express preventive situations to avoid the consequences of an undesirable situation. This definition is merely semantic. However, as is well-known in the typological literature, comparative concepts must be based on conceptual-semantic notions and structural concepts. The following is the definition of precautioning purpose constructions adopted here:

> Precautioning purpose constructions are complex sentence constructions in which the adverbial clause explicitly describes a situation which the speaker considers to be unpleasant/undesirable, and which would have occurred unless the evasive action of the main clause is undertaken. Put another way, if the precaution expressed in the main clause is heeded, the unpleasant/undesirable outcome of the adverbial clause is avoided.

Several formal, semantic, and pragmatic issues can be highlighted from this definition: unpleasant/undesirable situation, explicitness, and evasive action of the main clause. Each of the three aspects of the comparative concept adopted here has a history in typological research and thus comes with a large amount of previous literature. To delimit the scope of the present investigation, some comments on these issues follow here.

First, as was mentioned above, the adverbial clause in a precautioning construction describes a situation which the speaker considers to be unpleasant/undesirable and that should be avoided, as in Example (5). This is related to deontic modality. From a traditional perspective, it has been proposed that deontic modality must be defined in terms of the concepts of obligation and permission (Lyons 1977: 823–841; Palmer 1986: 96–115; van der Auwera and Plungian 1998: 81). The speaker imposes an obligation on the hearer (deontic necessity, e.g. *you must do it*) or the speaker grants permission to the hearer to carry out an action (deontic possibility; e.g. *you may go*) (Lyons 1977: 832). Put another way, deontic modality involves "a general authority asks a proxy authority to act" (Timberlake 2007: 329). However, it has been shown there are constructions that cannot encode the supposedly central deontic meanings of obligation or permission (e.g. *we deplore that a person not involved in the affairs of this club gave advice to the player*; Nuyts et al. 2010: 18). Rather than imposing an obligation or granting permission, it merely describes the degree of (un)desirability for a situation to take place (Van linden and Verstraete 2011: 153; Verstraete 2001, 2005). The fundamental difference between the two is that deontic meanings involving (un)desirability are "attitudinal, with a primary function in the domain of qualifications of situations, while the traditional notions of obligation and permission are illocutionary, with a primary function in the interactional system of language" (Van linden and Verstraete 2011: 155).

(5)     Maybrat (Maybratic; maib 1239)
        *ratau      m-akuoh    ratau   tkief    sfot         anu  p-haf,*
        ratau       3PL-scrape  ratau   divine   strengthen   POSS  1PL-belly
        'Ratau, they scraped ratau, they divined and strengthened our bellies,
        *re         p-kai      mes     fe.*
        in.order.to  1PL-meet   blood   NEG
        so that we wouldn't bleed.'
        (Dol 1999: 280)

Second, the criterion of explicitness excludes semantically non-specific types of clause-linkage, such as asyndetic coordinate clauses and syndetic (e.g. conjunctive) coordinate clauses from which a particular precautioning purpose relation can be inferred. There are languages that convey precautioning purpose relations with coordinating constructions. In the Garrwa example in Example (6), a precautioning purpose situation is inferred from clauses coordinated with *baki* 'and'. To convey a situation that is (highly) possible and undesirable, languages may also use asyndetic constructions, that is, two clauses without any structural element linking them. In the Alamblak example in Example (7) there is no explicit device used in the expression of a precautioning purpose relation. Rather, this sematic relation is inferred from the context (Bruce 1984: 313).

(6)      Garrwa (Garrwan; gara 1269)
        *nurr=ili*        ***baki***   *yalu*     *kadijba*      *kingkarri*   *wada-yurri.*
        1PL.EXCL.NOM=HAB   and    3PL.NOM   sneak.away   up        food-ALL
        'We (would watch them) lest they (might) sneak away up to the food.'
        (Mushin 2012: 365)
        Alamblak (Sepik; alam 1246)

(7)      *waitwa*   *tekko*        *ninho*   *yënr*   *yëhniahr.*
        go        to.the.river   your    child   go.down.into.will.he
        'Go to the river lest your child fall in.'
        (Bruce 1984: 313)

This means that languages that only employ CLAUSE-LINKING DEVICES (e.g. conjunctions, converbs) are considered here (Verstraete 2006: 195). Conjunctions are free morphemes which mark the precautioning purpose clauses for their semantic relationship to the main clause, and do not fulfil a syntactic function (e.g. subject, object) in the clause over which they operate (Kortmann 1997: 72). A converb is a special verb form that does not appear in independent declarative clauses (Cristofaro 2003: Ch. 3) and that marks the semantic relations holding between clauses. In the present study, we classify clause-linking devices as specialized and as non-specialized. Specialized clause-linking devices are conjunctions or converbs that can only be used in the expression of precautioning purpose. For instance, the Korean marker *anhtolok* (see Example 8) and the Movima marker *ka:* (see Example 9) are clause-linking devices that can only be used to indicate precautioning purpose. On the other hand, non-specialized clause-linking devices are conjunctions or converbs that express not only precautioning purpose, but also other semantic relations (e.g., positive purpose). For instance, non-specialized clause-linking device may be accompanied by a negative marker to indicate precautioning purpose, as in Example (10). When the negative marker is omitted, the meaning of the construction changes (i.e. positive purpose), as

in Example (11). This suggests that the negative marker in the precautioning purpose clause lexically contributes to negation.

(8)  Korean (Koreanic; kore 1280)
*kay ka naka-nikka kule-ci* **anhtolok** *mukk-e twu-sey-yo.*
dog SBJ go.out-so do.so-NMLZ lest bind-INF keep-SH-POL
'The dog may go out, so keep it on a leash lest it should do so.'
(Sohn 2009: 311)

(9)  Movima (Isolate; movi 1243)
*chon iń joy-cheł n-os ja:mi:-wa,*
HAB INTRANS go-REFL.REC OBL-ART fetch.water-NMLZ
'I went to fetch water,
**ka:** *n-os de-wawaj-wa is juyeni n-os ro:ya.*
lest OBL-ART see-INV-NMLZ ART.PL person OBL-ART house
lest the people in the house see me (play the harmonica).'
(Haude 2006: 547)

(10)  Tetun (Austronesian; tetu 1245)
*milisia sira sai bá hamrík iha lurón né nakonu,*
militia PL exit go stand LOC road this full
'The militia stood over the road,
**para** *kareta* **la** *vele lui.*
CONJ vehicle NEG IRR pass
so that the vehicles couldn't pass.'
(van Klinken 1999: 112)

(11)  *ami né tenki koali Portugés né,*
1PL this must speak Portuguese this
'(At school), we had to speak Portuguese,
**para** *ami bele hatene lai-lais.*
CONJ 1PL IRR know RDP-quick
so that we would learn quickly.'
(van Klinken 1999: 112)

Third, a key formal characteristic of precautioning purpose constructions is that they must occur with a main clause indicating the evasive situation. It has been shown that the evasive situation may take the form of a (negative) imperative, as in Example (12) (Schmidtke-Bode 2009: 135). It indicates that X must be carried out to avoid the unpleasant consequences expressed in the precautioning purpose clause situation. (Negative) imperatives have been the subject of much cross-linguistic research (e.g. Aikhenvald 2010; Jary and Kissine 2016; Mauri and Sansò 2012; Van Olmen 2021;

Xrakovskij 2001). However, most of these do not provide an exhaustive characterization of this construction. A (negative) imperative provides the addressee(s) with a reason (not) to act "and that is at least suitable for the performance of directive speech acts where the speaker wants and attempts to get the addressee(s) to do something" (Van Olmen 2024: 215).[1] Put another way, positive and negative imperatives fulfill similar specific functions but contrast in their fundamental orientation of action and non-action (Van Olmen 2021: 526–528).

(12)    Kaluli (Nuclear Trans New Guinea; kalu 1248)
    *a-yo:        de-ya:      n-aba:na:ki,  tog-o        asiba!*
    house-TOP  fire-ERG  eat-lest      door-TOP  IMP
    'Close the door lest the fire burn the house.'
    (Grosh and Grosh 2004: 61)

In other cases, the main clause may indicate a situation in which the speaker just mentions a course of action that could be useful in their view and that the addressee is free to take or not, e.g. advice/suggestions, as in Example (13) (Schmidtke-Bode 2009: 135). The function of advice-giving precautioning purpose constructions is based on the speaker's confidence and personal (emotional) experience about the benefits of the advice for the advisee (see Nuyts 2015: 110 for similar claims with respect to other constructions).

(13)    San Dionisio del Mar Huave (Huavean; sand 1278)
    *ngu=mi        sa=n-a-jants        par    ngu=tsontsok-om.*
    NEG=NOM.PRS  1SG=IRR-TV-wash  CONJ  NEG=wrinkled-IRR
    'I wouldn't wash it (if I were you) so that it won't wrinkle.'
    (Salminen 2017: 218)

There are other scenarios in which the evasive situation of the main clause is neither a (negative) imperative nor an advice/suggestion. Rather, it just indicates the evasive situation that will be undertaken to avoid a potential unpleasant/undesirable situation (Schmidtke-Bode 2009: 135), as in Example (14):

(14)    Togo Kan (Dogon; togo 1254)[2]
    *ɛ́mɛ́    gìrⁿì-káⁿ        mòtăm    gŏ:-lé      g-î        dè    sɔ́gɔ́-jú.*
    1PL.SBJ  house-mouth  scorpion  go.out-PROH  say-PFV  CONJ  lock-IPFV
    'We will lock the door lest the scorpion be able to get out.'
    (Heath 2015a: 388)

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**1** This definition is primarily inspired by the definition given by Jary and Kissine (2016: 132).

**2** Language not included in the sample.

The forms shown above have been documented for precautioning purpose constructions with future temporal reference (disregarded from the present research). As for precautioning purpose constructions showing past temporal reference, they occur neither with a (negative) imperative nor an advice/suggestion in the sample. Instead, they appear with main clauses which state the evasive situation that was undertaken to avoid a potential unpleasant/undesirable situation, as in Example (15):

(15)  Mapuche (Araucanian; mapu 1245)
    *amu-n   wariya-mew  ñi       ngilla-tu-al    kofke   mi,*
    go-IND   town-INSTR  1SG.POSS  buy-TRANS-IRR   bread   2SG.POSS
    'I went to buy bread,
    *entri-we-nu-a-m.*
    get.hungry-PS-NEG-IRR-CVB
    so that you wouldn't be hungry anymore.'
    (Smeets 2008: 352)

Before we leave the present subsection, mention should be made of the following strategic restriction. First, it is a well-known fact that same-subject and different-subject purpose clauses may be realized with different morphosyntactic make-up in the languages of the world (Thompson et al. 2007: 244). However, this is an area that was not possible to analyze in the languages in the sample given that most sources only contain information on different-subject precautioning purpose clauses, as in Example (16). Accordingly, the present research only considers this type of construction.

(16)  Tamil (Dravidian; tami 1289)
    *Kumaar   kuzantai  az-aa-mal    paarttukkon-t-aan.*
    Kumar    child     cry-NEG-CVB  look.after-PST-3SG.M
    'Kumar took care so that the child didn't cry.'
    (Lehmann 1993: 117)

Second, the present study only considers precautioning purpose constructions with past temporal reference given that most sources only provide information on this type of construction (see Section 2.2). Accordingly, the present study only considers different subject precautioning purpose clauses with past temporal reference.

     Such delimitation reflects a broader methodological tendency in linguistic typology, which typically advances by examining specific features of linguistic phenomena rather than attempting to capture their full range of variation at once. In other words, the scope of typological research is often constrained, and in many cases directly shaped, by the descriptive information available in grammars and related sources. As Round and Corbett (2020: 489) observe, "linguistic typology is part of a wider intellectual undertaking, in which we can benefit from the successes of others". Accordingly, as linguistic documentation expands to include more languages from diverse

regions, it is expected that other researchers will be able to assess whether the findings of the present study extend to other types of precautioning purpose clauses (e.g. constructions with future temporal reference and same subject).

### 2.1.2 Tense–aspect–mood (TAM)

It has been shown that TAM markers may be predetermined by different types of adverbial clauses. For instance, Hetterle (2015: 76–77) shows that, cross-linguistically, temporally subsequent constructions (e.g. *after she left, I ate*) tend to appear with past or perfective marking in the adverbial clause. This stems from the fact that *after-*clauses tend to be past-oriented and the proposition that they convey precedes the proposition of the main clause, and it is completed at the onset of the main clause situation. In a similar fashion, *because-*clauses tend to appear with past or perfective marking. This is not surprising given that "causes precede the consequence in the logical order of events, and they are typically realized (completed) at the onset of the consequence" (Hetterle 2015: 75). *Before-*clauses also show systematic patterns. *Before-*clauses express a situation that takes place posterior to the main clause situation. Put another way, the situation expressed by the *before-*clause is not yet realized at the time of the main clause situation (Olguín Martínez 2023). In many languages around the world, the semantics translates directly into the coding properties of this adverbial clause in that *before-*clauses tend to occur with future tense markers (Hetterle 2015: 77). In *while* constructions, two situations are fully or partially happening at the same time. Because of this, in many languages around the world, *while-*clauses take imperfective aspect (Thompson et al. 2007: 188). What this seems to indicate is that there are systematic cross-linguistic correlations between TAM marking and the meaning of adverbial clauses. Accordingly, TAM markers should be considered an important constructional property of adverbial clauses in many languages around the world.

As was discussed in Section 2.1.1, precautioning purpose clauses describe a situation which would have occurred. In the present study, it is expected that these clauses will appear with non-actualized TAM. This is a term that groups together markers whose semantics indicates situations "that are not actualized in the real world in some way" (Roberts 1990: 372–373), such as "potential", "conditional", "contrary-to-fact", "irrealis", "non-realized", "optative", "subjunctive", "dubitative", and "hypothetical (Olguín Martínez 2024a). Put another way, non-actualized TAM markers indicate that a given situation is presented as not grounded in perceivable reality (Verstraete 2005: 250). This means that constructions marked with non-actualized TAM belong to the realm of the imagined or hypothetical, and as such they constitute a potential or possible situation "but it is not an observable fact of reality" (Elliott 2000: 66–67). One comment on imperfective aspect should be mentioned here. There are a number of

languages in the sample in which precautioning purpose clauses appear with imperfective aspect. For instance, in Sidaama, precautioning purpose clauses are realized with the imperfective -*anno*, as in Example (17). It has been proposed that imperfective marking may be an important grammatical feature of positive purpose, conditional, counterfactual constructions (Mauri et al. 2023: 182; Schmidtke-Bode 2009: 43–44). It is worth noting that imperfective aspect has been considered an aspectual value typically associated to actualized situations (Comrie 1976: 30). However, here imperfective aspect is considered a non-actualized TAM pattern. To explain the connection between imperfective aspect and non-actualized situations, it has been shown that imperfective aspect has an indirect link with potentiality. For positive purpose clauses, it has been proposed that imperfective aspect marking underlines or re-emphasizes the inherent potentiality of purposive situations (Schmidtke-Bode 2009: 43–44). Accordingly, the use of imperfective aspect in precautioning purpose clauses is perfectly harmonious with its inherent non-actualization.

(17)    Sidaama (Afro-Asiatic; sida 1248)
        *farašš-u*      *ful-ø-**anno**-kki-gede,*      *hutt'a*   *hutt'-u-mm-o.*
        horse-NOM   exit-3SG.M-IPFV-NEG-so.that   fence   create.fence-PFV-1SG-M
        'So that the horse would not go out, I made a fence.'
        (Kawachi 2007: 442)

Actualized TAM can also appear in precautioning purpose clauses. By actualized TAM is meant TAM markers whose semantics does not align with the meaning expressed by precautioning purpose clauses, such as past tense and perfective marking. An example illustrating this pattern is found in Sochiapan Chinantec (repeated here for convenience). In this language, *kíᴴ^nïᴹ^lïᴴ* 'lest' clauses occur in the past tense (see as in Example 18). In all languages in the sample, the authors of the sources consulted for the present study define past tense as a form that refers to a point in time previous to the point of speech and/or reference (Comrie 1985). On the other hand, perfective is defined as a form that refers to a single situation conceived as one complete unit. The situation described by a verb is seen as a completed whole (Comrie 1976) and is by default interpreted as referring to the past.

(18)    Sochiapan Chinantec (Oto-Manguean; soch 1239)
        *bíhᴴ*          *kaᴸ-hoᴸ*
        AFF            REM.PST-dig.TRANS.INAN.3SG
        'He dug it (the hole),
        *kíᴴ^nïᴹ^lïᴴ*     *kaᴴ-chanhᴹᴴ*.
        lest             REM.PST-arrive.home.TRANS.INAN.3PL
        lest they (the witches) arrive home.'
        (Ana Martinez personal communication)

Languages may also contain precautioning purpose clauses that do not display any TAM. In Moskona, precautioning purpose clauses are deprived of TAM marking, as can be seen in Example (19).

(19)      Moskona (East Bird's Head; mosk1236)

|  |  |  |  |  |  |
|---|---|---|---|---|---|
| *efer* | *no-ma-i* | *et* | *ariawunun* | *jug* | *esirn(a).* |
| child | DEIC.NMLZ-far-GIV | eat | medicinal.treatment | lest | sick |

'The child took the medicine lest (he) be sick.'
(Gravelle 2010: 353)

## 2.2 Methodology and sample

In the present study, we consider a sample of 71 languages based on the Genus-Macroarea method proposed by Miestamo (2005). In particular, the bottom-up variant of the method is adopted here. In this method, the primary genetic stratification is made at the genus level, and the primary areal stratification at the level of macro-areas. The languages of the sample are shown in Table 1.

While an ideal language sample would also be areally balanced, it is difficult to come up with a sample that is both genetically and areally balanced, for the simple reason that some macro-areas have more genera than others. Furthermore, some macro-areas are better represented than others because of the availability and quality of the sources. As is shown in Table 2, Eurasia is somewhat overrepresented

**Table 1:** Languages in the sample.

| Macro-area | Languages |
|---|---|
| Africa | Ben Tey, Hausa, Jenaama Bozo, Kikuyu, Logba, Lumun, Mursi, Sheko, Sidaama, Southern Gumuz, Tamashek, Uduk |
| Australia | Gamilaraay, Gangalidda, Gurr-Goni, Kalkatungu, Waray, Wardaman, Yawuru |
| Eurasia | Armenian, Basque, Hungarian, Icari Dargwa, Japhug, Khwarshi, Korean, Koroshi, Lezgian, Mandarin, Maithili, Spanish, Tamil, Turkish, Tundra Nenets |
| North America | Central Alaskan Yup'ik, Choctaw, Cora, Cupeño, Francisco Leon Zoque, Garifuna, Huasteca Nahuatl, Jamiltepec Mixtec, Ottawa, Papantla Totonac, San Dionisio del Mar Huave, San Cristóbal Lachirioag Zapotec, Slave, Sochiapan Chinantec, Yaqui |
| Papunesia | Abau, Balantak, Ilocano, Kaluli, Lewo, Maybrat, Menya, Moskona, Ternate, Tetun, Tulil, West Coast Bajau |
| South America | Macushi, Mamainde, Mapuche, Movima, Paraguayan Guarani, Paunaka, Piapoco, Urarina, Yagua, Yine |

**Table 2:** Number of genera per macro-area included in the sample.

| Macro-area | Number of genera | Number of genera in the sample | Coverage |
|---|---|---|---|
| Africa | 77 | 12 | 15.58 % |
| Australia | 43 | 7 | 16.27 % |
| Eurasia | 82 | 15 | 18.29 % |
| North America | 95 | 15 | 15.78 % |
| Papunesia | 136 | 12 | 8.82 % |
| South America | 110 | 10 | 9.09 % |

in comparison to the other macro-areas. Our coding of the data and the references consulted for each language are included in the Appendix of this article.

In what follows, we explain the structure and motivations behind the selection of the languages in the sample. In the first stage, an attempt was made to find one language from each of genera proposed by Dryer (2013) (543 genera) for which the authors of sources used the label "negative purpose". In order not to a priori exclude languages whose grammatical descriptions do not feature the term "negative purpose clause", but that may have constructions with a similar function, we also paid attention to the following labels: "precautioning", "apprehensive", "admonitive", "evitative", "avoidance", "preventive", "avoidance", "warning", "monitory", "prohibitive", "lest", and "avertive". By following this process, we were able to form a sample of 212 languages.

In the second stage, we investigated whether precautioning purpose constructions appeared with or without a clause-linking device (i.e. conjunction or converb). Those languages without clause-linking devices (e.g. asyndetic construction) were not considered in the sample (see Section 2.1.1 for this strategic restriction). As for the remaining languages, we explored whether markers were specialized or non-specialized. By following this process, we reduced the sample from 212 languages to 112 languages.

In the third stage, we determined whether the remaining sources contained information regarding the temporal reference of precautioning purpose clause constructions. For 71 languages we found information on constructions with past temporal reference, for 30 languages we found information on constructions with future temporal reference, and for 11 languages we identified information on both types of temporal reference. Given that most sources only contain information on constructions with past temporal reference, this is the main reason why the present investigation is based on constructions with this temporal reference.

All in all, the sample for the present study aims at broad genetic and geographical coverage of the world's languages. The sample is thus well-suited to exploring cross-linguistic variation in the encoding of precautioning purpose constructions.

Before we leave the present section, mention should be made of the following issue. There are languages in the sample that may contain more than one specialized clause-linking device used in the encoding of precautioning purpose constructions. In such cases, we have taken into account all the relevant clause-linking devices when the sources for these languages do not explicitly specify which of them functions as the primary or most frequent clause-linking device. For instance, Mandarin Chinese contains the following specialized clause-linking devices: *yǐmiǎn* (以免, 'lest'), *miǎnde* (免得, 'lest'), and *shěngde* (省得, 'lest') (Li and Thompson 1981: 655; Yip and Rimmington 2004: 343). Of these clause -linking devices, the sources do not indicate which is most frequently used. However, in cases where the authors provide explicit information regarding which clause -linking device is the primary, we have followed their assessment.

# 3 Precautioning purpose constructions: results

This section explores the interaction of clause-linking devices and TAM markers in precautioning purpose clauses (see Appendix). We demonstrate that when precautioning purpose clauses occur with a specialized clause-linking device, they will tend to appear with no TAM or with actualized TAM (e.g. past tense). This stems from the fact that there is no need to have other morphosyntactic material aiding in the meaning of the construction. The specialized clause-linking device is the main feature that helps to evoke the precautioning purpose semantics of the construction. Put another way, the clause-linking device in this scenario is the primary formal cue that guides the listener's interpretation of a complex sentence construction (Bates and MacWhinney 1989). Accordingly, non-actualized TAM are not necessary in this scenario given that their appearance would over-specify the meaning of the construction. It has been argued that semantic over-specification constitutes a disadvantage to speakers, who have to invest more time and energy into their utterance, and to hearers, who have to process more forms while not necessarily gaining more information (Dahl 2004; Trudgill 2011: 4). On the other hand, when precautioning purpose clauses appear with a non-specialized clause-liking device, they will tend to occur with non-actualized TAM markers. In this scenario, a non-actualized TAM

marker, a non-specialized clause-linking device, and a negative marker work in concert in the expression of the adverbial relation holding between clauses. This should be characterized as an instance of COMPOSITIONAL ENCODING, i.e. the various ways in which specific constructional properties of a clause combine to dictate a particular adverbial relation (Verstraete 2010). A similar situation has also been attested for other clause-linkage constructions. For instance, it has been shown that when *before* clauses are formed with a non-specialized conjunction or converb and a negative marker, they will tend to appear with a non-actualized TAM marker (e.g. irrealis marker; Olguín Martínez 2023, 2024b).

## 3.1 Specialized clause-linking devices and TAM

In this section, we first discuss the interaction of specialized clause-linking devices and TAM markers in precautioning purpose clauses. The resulting values are presented in Table 3 and several observations can be gleaned from this table.

Specialized clause-linking devices tend to appear with either no TAM or with actualized TAM markers (Table 3). An example illustrating the former pattern is found in Cora. In this language, precautioning purpose constructions with past temporal reference are formed with the specialized conjunction *ti'ihkai*, as in Example (20). Clauses introduced with this conjunction must not occur with any TAM (Casad 1984: 437). Another example can be found in Garifuna. In Example (21), the precautioning purpose clause is introduced by the conjunction *luwey*. This clause

**Table 3:** Interaction of specialized clause-linking devices and TAM markers in precautioning purpose clauses.

| Interaction of specialized clause-linking devices and TAM markers | Languages |
|---|---|
| Languages with specialized clause-linking device and with non-actualized TAM | Paunaka, Slave |
| Languages with specialized clause-linking device and no TAM | Balantak, Cora, Francisco Leon Zoque, Garifuna, Huasteca Nahuatl, Ilocano, Jamiltepec Mixtec, Kalkatungu, Kaluli, Khwarshi, Korean, Lewo, Macushi, Mamainde, Mandarin, Maithili, Menya, Moskona, Movima, Paraguayan Guarani, Piapoco, Ternate, Tulil, Tundra Nenets, Uduk, Urarina, Wardaman, West Coast Bajau, Yagua, Yine |
| Languages with specialized clause-linking device and with actualized TAM | Abau, Central Alaskan Yup'ik, Gangalidda, Sochiapan Chinantec |

does not appear with any TAM marking (Haurholm-Larsen 2016: 271). A look-alike scenario is attested in Macushi, in which precautioning purpose clauses realized with *namai* are deprived of TAM markers, as in Example (22).

(20)    Cora (Uto-Aztecan; elna 1235)

**tɨ'ɨhkai**   *ha'atɨ*      *wá'a-seihra*   *me-ta'an-ta-kúuna-n.*
lest       someone   3PL.OBJ-see   3PL.SBJ-DISTR-on.across-be.hollow-PTCP
'They closed the door lest someone see them.'
(Casad 1984: 437)

(21)    Garifuna (Arawakan; gari 1256)

| *aban* | *l-adówru-n-i* | *wügûri* | *lé* | *l-áru=tì=buga* | *duna* | *lé* |
|--------|---------------|---------|------|----------------|--------|------|
| then   | 3.M-block-UNSPEC-3.M | man | DEM | 3.M-path=TOP=PST | water | DEM |

| *t-uwéy* | *irahü* | *tó* | **luwey** | *t-ábürügù-n.* |
|----------|---------|------|-----------|----------------|
| 3.F-from | child | DEM | lest | 3.F-land-UNSPEC |

'The man blocked the girl's way out of the water lest she escape.'
(Haurholm-Larsen 2016: 271)

(22)    Macushi (Cariban; macu 1259)

*i-tîrî-pî-i-ya*      *paaka*   *emowî*   **namai**.
3SG-put-PST-3SG-ERG   cow     enter   lest
'He put it (there) lest the cows enter.'
(Abott 1991: 60)

Constructions in which specialized clause-linking devices occur with actualized TAM markers can be found in Sochiapan Chinantec. In this language, the conjunction *kíᴴ‸nïᴹ‸lïᴴ* is specialized and can only be used for expressing precautioning purpose relations (see Example 18). This clause can only occur with actualized TAM, i.e. past tense (Foris 2000: 323).

There are only two languages in the database that must be rated as a counter-example to the tendency shown above (see Table 3).

## 3.2 Non-specialized clause-linking devices and TAM

The discussion now turns to non-specialized clause-linking devices and their interaction with TAM in precautioning purpose clauses.

As can be seen in Table 4, non-specialized precautioning purpose clauses tend to appear with non-actualized TAM markers. A discussion of some selected manifestations of this pattern follows here.

In Kikuyu, precautioning purpose constructions with past temporal reference are realized with the conjunction *nĩgetha* and the negative marker *nd-*, as in Example (23). The conjunction is non-specialized in that it can also be used for expressing positive purpose. Note that this adverbial clause must appear in the subjunctive in this language.

(23)      Kikuyu (Atlantic-Congo; kiku 1240)

       *ũ-kĩ-ak-ĩr-wo*            *ũ-kĩ-thi-ũrũr-ũr-ĩk-i-o*

       SBJ-SEQ-built-APPL-PASS     SBJ-SEQ-go-INTENS-REVERS-MIDDL-TRANS-PASS

       *na*                *ma-higa*     **nĩgetha**     *atĩ*     **nd**-*ũ-ka-gũ*-**e**.

       with            NC-stone     CONJ     COMP     NEG-SBJ-PRS-fall-SBJ

       'The tree was built for and encircled with stones so that it apparently would not fall.'

       (Englebretson and Wa-Ngatho 2015: 165)

A look-alike pattern is found in Ottawa. In this language, the clause-linking device *-g* along with the negative marker *bwaa-* and the irrealis marker *ji-* are used in the expression of precautioning purpose relations, as in Example (24). When the precautioning purpose clause occurs without the negative marker *bwaa-*, the construction indicates positive purpose.

**Table 4:** Interaction of non-specialized clause-linking devices and TAM markers in precautioning purpose clauses.

| Interaction of non-specialized clause-linking devices and TAM markers | Languages |
|---|---|
| Languages with non-specialized clause-linking device and with non-actualized TAM | Armenian, Balantak, Basque, Ben Tey, Choctaw, Cupeño, Gurr-Goni, Hausa, Huasteca Nahuatl, Hungarian, Icari Dargwa, Japhug, Kikuyu, Koroshi, Lezgian, Lumun, Maithili, Mapuche, Mursi, Ottawa, Papantla Totonac, San Cristóbal Lachirioag Zapotec, San Dionisio del Mar Huave, Sheko, Sidaama, Spanish, Tamashek, Tetun, Turkish, Waray, Yaqui, Yawuru |
| Languages with non-specialized clause-linking device and no TAM | Gamilaraay, Maybrat, Southern Gumuz, Tamil |
| Languages with non-specialized clause-linking device and with actualized TAM | Jenaama Bozo, Logba |

(24)     Ottawa (Algic; ojib 1241)
         *n-gii-gkidmaw-aa*                     *ziizbaakdoons-an,*
         1SG.IND-PST-hide.from-1SG.3SG.IND    candy-INAN.PL
         'I hid the candies from him,
         ***ji-bwaa**-gdaa-**g**.*
         IRR-NEG-eat.up-CNJ
         lest he ate them all up.'
         (Valentine 2009: 210)

A similar pattern is attested in Lezgian. In this language, precautioning purpose is signaled with the non-specialized clause-linking device *-wal* along with the irrealis marker *-da*, and the negative marker *t-*, as in Example (25). The marker *-wal* is polyfunctional in that it expresses a different adverbial relation when the dependent clause shows positive polarity (i.e., positive purpose).

(25)     Lezgian (Nakh-Daghestanian; lezg 1247)
         *stxadi*      *jawaš-diz*  *Nadjadi*   *q'at'u-n*       ***t**-iji-**da**-j-**wal***
         brother.ERG  quiet-ADV   Nadja.ERG   perceive-PER    NEG-do-IRR-PTCP-PURP
         *žuzu-na:*     *im*         *wuž*        *ja?*
         ask-AOR       this.ABS     who         COP
         'My brother asked, quietly so that Nadja wouldn't hear him: who is it?
         (Haspelmath 1993: 393)

There are six languages that do not align with the interaction shown above in that non-specialized clause-linking devices occur in clauses with no TAM (i.e. Gamilaraay, Maybrat, Southern Gumuz, Tamil) or in clauses with actualized TAM (i.e. Jenaama Bozo, Logba). In Southern Gumuz, precautioning purpose clauses are formed with the non-specialized clause-linking device *-n* and the negative marker *bats'-*, as in Example (26). Note that this adverbial clause does not appear with a non-actualized pattern. Instead, this clause is deprived of TAM marking.

(26)     Southern Gumuz (Gumuz; sout 3236)
         *ká-m-**bats'**-úâ-**n***             *ma-dáb-amá,*
         DAT-NMLZ-NEG-3PL.TRANS-DEP       NMLZ-find-OBJ
         'So that they wouldn't find him,
         *b-á-kál-agá*              *b-á-baats'-agá-ts.*
         AFF-3SG.INTRANS-say-NOM.FUT  AFF-3SG.INTRANS-hide-NOM.FUT-body
         he hid himself.'
         (Ahland 2012: 375)

# 4 Discussion

In this section, we situate the results of the present study with respect to other studies: Verstraete (2006) and Schmidtke-Bode (2009). First, Verstraete (2006) investigates, based on a sample of 20 Australian languages, the role of mood markers in different types of complex sentence constructions, such as conditionals, counterfactual conditionals, positive purpose clauses, and precautioning purpose clauses, among others. As for precautioning purpose clauses, Verstraete (2006: 215) finds out that precautioning purpose clauses formed with a non-specialized clause-linking device (semantically vague relational marker) tend to occur with mood markers (e.g. irrealis). In this scenario, mood serves to pick out a semantic category from a larger range of categories covered by a semantically vague relational marker. On the other hand, when precautioning purpose clauses are formed with a specialized clause-linking device (semantically specific relational marker), they also tend to occur with mood markers. However, unlike constructions formed with a semantically vague relational marker, "the modal feature added by the mood does not serve to pick out a semantic category from a larger range of categories covered by a vague relational marker, but can instead be regarded as co-specifying the semantics of the complex sentence construction together with a specific relational marker" (Verstraete 2006: 216). The findings of the present study partially align with Verstraete's findings. The fact that Australian precautioning purpose constructions realized with a semantically vague relational marker tend to occur with mood markers is also a strong tendency in our cross-linguistic study (i.e. non-specialized clause-linking device and non-actualized TAM; see Section 3.2). However, the pattern: mood as co-specifier with a semantically specific relational marker, attested in Verstraete's research, is almost non-existent in our typological study. There are only two languages in the sample of the present research in which precautioning purpose clauses occur with a specialized conjunction and irrealis markers, i.e. Paunaka and Slave (see Section 3.1). We argue that these cases of semantic over-specification may be dispreferred cross-linguistically given that they would constitute a disadvantage to speakers, who have to invest more time and energy into their utterance, and to hearers, who have to process more forms while not necessarily gaining more information (Dahl 2004; Trudgill 2011: 4).

Second, Schmidtke-Bode (2009: 130), in his typological study of purpose clauses, finds out that 19 out of 80 languages in his sample contain precautioning purpose clauses formed with a specialized clause-linking device. Of these 19 languages, almost half of them contain balanced precautioning purpose clauses, i.e. the adverbial

clause has fully inflected verbs identical to verbs of ordinary main clauses (Schmidtke-Bode 2009: 132). This contrasts with the picture of the present study in that precautioning purpose clauses formed with a specialized clause-linking device tend to be deprived of TAM (see Section 3.1). Given that the specialized clause-linking device is the main feature that helps to evoke the precautioning purpose semantics of the construction, there is no need to have other morphosyntactic material aiding in the meaning of the construction.

# 5 Conclusions

We have presented the largest systematic worldwide survey of precautioning purpose constructions. We have shown that when precautioning purpose clauses occur with a specialized clause-linking device, they will tend to occur with no TAM or with actualized TAM markers. On the other hand, when precautioning purpose clauses appear with a non-specialized clause-linking device, they will tend to appear with non-actualized TAM markers. What are the next steps? In a sense, the next steps follow quite naturally from everything discussed above. First and most obviously, it remains to be investigated whether same subject precautioning purpose clauses align with the tendencies uncovered for different subject precautioning purpose clauses.

The next major kind of follow-up would be to explore whether both precautioning purpose clauses and preventive constructions (e.g. *her mother prevented her daughter from falling*) are realized with the same clause-linkage pattern in the languages of the world. For instance, in Sidaama, both constructions are formed with the same clause-linkage pattern (Kawachi 2007: 442–443). The fact that both constructions occur with the same marker suggest a diachronic connection. Preventive constructions belong to the semantic category of FORCE DYNAMICS. This is a category that refers to how entities interact with respect to force and has proved useful for the description of a variety of linguistic constructions, such as causatives (Talmy 1988, 2000) Preventive constructions must be characterized as constructions involving a blocking force (Wolff 2007). In the example *her mother prevented her daughter from falling*, the preventee (i.e. her daughter) was about to experience an unpleasant/undesirable situation (i.e. falling). However, the preventer (i.e. her mother) serves as the blocking force of the unpleasant/undesirable situation (i.e. her daughter's fall). A typological comparison between precautioning purpose clauses and preventive constructions is a very promising area for future research.

Third, the present study only takes into account precautioning purpose constructions with past temporal reference. It remains to be explored whether constructions with future temporal reference occur with the same clause-linking device and TAM. There are languages in which precautioning purpose clauses appear with the same morphosyntactic make-up (i.e. same clause-linking device and same TAM) regardless of their temporal reference. For instance, in Mapuche, both past and future precautioning purpose clauses are formed with the clause-linking device -*m*, the negative marker -*no*, and the irrealis marker -*a*, as in the Examples (27) and (28). On the other hand, there are languages in which both constructions appear with different morphosyntactic patterns. In Piapoco, the conjunction *ipíchaná* can only occur in precautioning purpose constructions with past temporal reference, as in Example (29). This clause-linking device cannot be used for encoding future precautioning purpose constructions, as in Example (30). Instead, they must be encoded with the clause-linking device -*cáicha*. A morphosyntactic comparison between precautioning purpose constructions with past and future temporal reference is open to future research.

(27)    Mapuche (Araucanian; mapu 1245)
      *amu-n*  *wariya-mew*  *ñi*       *ngilla-tu-al*  *kofke*  *mi*,
      go-IND  town-INSTR    1SG.POSS  buy-TRANS-IRR  bread  2SG.POSS
      'I went to buy bread,
      *entri-we-**no-a-m***.
      get.hungry-PS-NEG-IRR-INV
      so that you wouldn't be hungry anymore.'
      (Smeets 2008: 352)

(28)    *fiy*  *kweida-nie-fi-y-iñ*       *ta-yiñ*       *nŭke*,
      that  take-care-PROG.PS-OBJ-IND  the-1SG.POSS  mother
      'We'll take care of our mother,
      *kutran-ka-w-küle-**no-a-m***.
      illness-FACT-REFL-STAT-NEG-IRR-IVN
      so that she won't suffer.'
      (Smeets 2008: 463)

(29)    Piapoco (Arawakan; piap 1246)
      *i-chùnìa-ca*  *capìi*  *i-báiná*  **ipíchaná**  *unía*  *i-úwàa*  *wía*.
      3-fix-DECL  house  3-leaves  lest      rain  3-fall  us
      'He fixed the house (roof) leaves lest the rain fall upon us.'
      (Klumpp 2019: 322)

(30)  *pi-chùulìa-cué*      *na-chanàa*   *pi-rí*  *pi-yáa-piná*,
      2-order-INCL          3PL-cook      2-to     2-eat-FUT
      'You will order them to cook your food,
      *máapi-**cáicha**-cué*   *pía.*
      hungry-lest-INCL         you
      lest you all be hungry.'
      (Klumpp 2019: 322)

Fourth, three languages in the sample contain both specialized and non-specialized precautioning purpose constructions (i.e. Balantak, Huasteca Nahuatl, and Maithili). Languages with more than one construction are an ideal test case for the overall findings of this paper (a tendency for specialized precautioning purpose clauses to occur with no TAM and a tendency for non-specialized precautioning purpose clauses to appear with non-actualized TAM). Given that the present study only contains three languages in which specialized and non-specialized precautioning purpose constructions co-exist, future studies can pay close attention to this domain by forming a sample with languages containing both types of constructions.

Fifth, in a number of languages in the sample, precautioning purpose clauses encoded with specialized clause-linking devices occur with expletive negation. Expletive negation corresponds to cases in which a negative formative is used in a main or subordinate clause (e.g. adverbial and complement clauses) without providing any truth-conditional contribution to interpretation (Delfitto 2020; Espinal 1992: 49; Jin and Koenig 2021; Olguín Martínez 2024b, 2024c, 2024d). Put another way, expletive negation refers to the presence of a negative marker that does not give a negative sense to the utterance. For instance, in Maithili, the specialized conjunction *kəhĩ* is used to express precautioning purpose relations. Clauses introduced with this conjunction also occur with the expletive negative marker *nəi*, which is optional and can be omitted without affecting the semantic relation holding between clauses (Yadav 1996: 368). Expletive negation in this type of construction is unexplored territory and open to future research.

This research only offers a first look at the cross-linguistic landscape of precautioning purpose constructions. Future research into a wider range of languages should help to verify, extend and, if necessary, amend the picture presented here.

# Abbreviations

1        first person
2        second person

| 3 | third person |
|---|---|
| ABS | absolutive |
| ADV | adverbial |
| AFF | affirmative |
| ALL | allative |
| AOR | aoristic |
| APPL | applicative |
| ART | article |
| CNJ | conjunct |
| COMP | complementizer |
| COMPL | completive |
| CONJ | conjunction |
| COP | copula |
| CVB | converb |
| DAT | dative |
| DECL | declarative |
| DEIC | deictic |
| DEM | demonstrative |
| DEP | dependent |
| DET | determiner |
| DISTR | distribution |
| ERG | ergative |
| EVID | evidential |
| EXCL | exclusive |
| F | feminine |
| FACT | factual |
| FUT | future |
| GIV | given |
| HAB | habitual |
| IMP | imperative |
| INAN | inanimate |
| INCL | inclusive |
| IND | indicative |
| INSTR | instrument |
| INTENS | intensive aspect |
| INTRANS | intransitive |
| INV | inverse |
| IPFV | imperfective |
| IRR | irrealis |
| IVN | instrumental verbal noun |
| LOC | locative |
| M | masculine |
| MIDDL | middle |
| NC | nounclass |

| NEG | negation |
|---|---|
| NMLZ | nominalizer |
| NOM | nominative |
| OBJ | object |
| OBL | oblique |
| PASS | passive |
| PER | perlative |
| PFV | perfective |
| PL | plural |
| POL | polarity |
| POSS | possessive |
| PROG | progressive |
| PROH | prohibitive |
| PRS | present |
| PS | persistence |
| PST | past |
| PTCP | participle |
| PURP | purpose |
| RDP | reduplication |
| REFL | reflexive |
| REM | remote |
| REVERS | reversive aspect |
| SBJ | subject |
| SEQ | sequential |
| SG | singular |
| SH | subject honoric suffx |
| STAT | stative |
| TOP | topic |
| TRANS | transitive |
| TV | thematic vowel |
| UNSPEC | unspecified |

# Appendix

Figure: Interaction of clause-linking devices and TAM markers in precautioning purpose constructions with past temporal reference in the languages in the sample.

| Macro-area | Language | Genus and family | Clause-linkage form | Clause-linkage type | TAM form | TAM type | References |
|---|---|---|---|---|---|---|---|
| Africa | Ben Tey | Dogon/Dogon | gì=náyⁿ plus negation | Non-specialized | Imperfective -rέ | Non-actualized | Heath (2015b: 283); Jeffrey Heath (personal communication) |
| | Hausa | West Chadic/Afro-Asiatic | don plus negation | Non-specialized | Subjunctive personal pronouns | Non-actualized | Jaggar (2001: 190, 641); Yusuf Baba Gar (personal communication) |
| | Jenaama Bozo | Western Mande/Mande | yárà plus negation | Non-specialized | Perfective (suprasegmental modification) | Actualized | Heath (2022: 468–469); Jeffrey Heath (personal communication) |
| | Kikuyu | Bantu/Atlantic-Congo | nĩgetha plus negation | Non-specialized | Subjunctive -e | Non-actualized | Englebretson and Mūringo Wa-Ngatho (2015: 165) |
| | Logba | Kwa/Atlantic-Congo | tέ plus negation | Non-specialized | Past tense tó- | Actualized | Dorvlo (2008: 270–271, 335) |
| | Lumun | Narrow Talodi/Narrow Talodi | akka | Non-specialized | Dependent incompletive (suprasegmental modification) | Non-actualized | Smits (2017: 600–668) |
| | Mursi | South Surmic/Eastern Sudanic | sé | Non-specialized | Irrealis -ò | Non-actualized | Worku (2021: 580) |
| | Sheko | Dizoid/Dizoid | n-ìƒnta plus negation | Non-specialized | Imperfective -kʼi | Non-actualized | Hellenthal (2009: 125) |
| | Sidaama | Highland East Cushitic/Afro-Asiatic | -gede plus negation | Non-specialized | Imperfective -anno | Non-actualized | Kawachi (2007: 433–434, 442–444) |
| | Southern Gumuz | Gumuz/Gumuz | -n plus negation | Non-specialized | No TAM | NA | Ahland (2012: 375) |
| | Tamashek | Berber/Afro-Asiatic | y ɑd plus negation | Non-specialized | Imperfective t- | Non-actualized | Heath (2005: 671–672); Jeffrey Heath (personal communication) |

(continued)

| Macro-area | Language | Genus and family | Clause-linkage form | Clause-link-age type | TAM form | TAM type | References |
|---|---|---|---|---|---|---|---|
| Australia | Uduk | Koman/Koman | *gòm* | Specialized | No TAM | NA | Beam et al. (1963: 36) |
| | Gamilaraay | Southeastern Pama-Nyungan/Pama-Nyungan | *-lday* plus negation | Non-specialized | No TAM | NA | Giacon (2014: 468) |
| | Gangalidda Gurr-Goni | Tangkic/Tangkic Burarran/Mangrida | *-manymara yandu* plus negation | Specialized Non-specialized | Indicative Irrealis *-ø* | Actualized Non-actualized | Keen (1983: 247) Green (1995: 273) |
| | Kalkatungu | Northern Pama-Nyungan/Pama-Nyungan | *ana* | Specialized | No TAM | NA | Blake (1979: 73–75) |
| | Waray | Western Gunwiny-guan/Gunwinyguan | *kak:u, kak:wuy* | Non-specialized | Potential *kan-* | Non-actualized | Harvey (1986: 264–265) |
| | Wardaman | Yangmanic/Yangmanic | *bujun* | Specialized | No TAM | NA | Merlan (1994: 295) |
| | Yawuru | Nyulnyulan/Nyulnyulan | *-yi* plus negation | Non-specialized | Future *ga-* | Non-actualized | Hosokawa (1991: 465) |
| Eurasia | Armenian | Armenian/Indo-European | *orpeszi* plus negation | Non-specialized | Subjunctive *-i* | Non-actualized | Dum-Tragut (2009: 439); Linda Tashjian (personal communication) |
| | Basque | Isolate | *-en* plus negation | Non-specialized | Subjunctive verb form | Non-actualized | Hualde and Ortiz de Urbina (2003: 715–716); Iker Salaberri (personal communication) |
| | Hungarian | Ugric/Uralic | *hogy* plus negation | Non-specialized | Subjunctive *-j* | Non-actualized | Kenesei et al. (1998: 105) |
| | Icari Dargwa | Dargwic/Nakh-Daghestanian | *-bahanda* plus negation | Non-specialized | Subjunctive *-aj* | Non-actualized | Sumbatova and Mutalov (2003: 211) |

(continued)

| Macro-area | Language | Genus and family | Clause-linkage form | Clause-link-age type | TAM form | TAM type | References |
|---|---|---|---|---|---|---|---|
| | Japhug | Qiangic/Sino-Tibetan | sɯ- plus negation | Non-specialized | Imperfective *phɯ-* | Non-actualized | Jacques (2021: 307); Guillaume Jacques (personal communication) |
| | Khwarshi | Avar-Andic-Tsezic/Nakh-Daghestanian | *-aluso* | Specialized | No TAM | NA | Khalilova (2009: 410–411) |
| | Korean | Koreanic/Koreanic | *anhtolok* | Specialized | No TAM | NA | Sohn (2009: 311) |
| | Koroshi | Iranian/Indo-European | *ke* plus negation | Non-specialized | Subjunctive *na-* | Non-actualized | Nourzaei et al. (2015: 160–161) |
| | Lezgian | Lezgic/Nakh-Daghestanian | *-wal* plus negation | Non-specialized | Future *-da* | Non-actualized | Haspelmath (1993: 393) |
| | Mandarin | Chinese/Sino-Tibetan | *yǐmiǎn* | Specialized | No TAM | NA | Li and Thompson (1981: 655); Yip and Rimmington (2004: 343) |
| | Maithili | Indic/Indo-European | *kahī* plus negation (it is optional) | Specialized | No TAM | NA | Yadav (1996: 368) |
| | | | *jahi sāki* plus negation | Non-specialized | Optative *-i* | Non-actualized | Yadav (1996: 368) |
| | Spanish | Romance/Indo-European | *para que* plus negation | Non-specialized | Subjunctive verb form | Non-actualized | Manuel Peregrina (personal communication) |
| | Tamil | Dravidian/Dravidian | *-mal* plus negation | Non-specialized | No TAM | NA | Lehmann (1993: 277) |
| | Turkish | Turkic/Turkic | *ki* plus negation | Non-specialized | Optative *-ye* | Non-actualized | Göksel and Kerslake (2005: 401) |
| | Tundra Nenets | Samoyedic/Uralic | *-moŋkad°* | Specialized | No TAM | NA | Nikolaeva (2014: 377) |
| North America | Central Alaskan Yup'ik | Eskimo/Eskimo-Aleut | *-yuar* | Specialized | Indicative mood | Actualized | Miyaoka (2012: 1265) |

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| Macro-area | Language | Genus and family | Clause-linkage form | Clause-link-age type | TAM form | TAM type | References |
|---|---|---|---|---|---|---|---|
| | Choctaw | Muskogean/Muskogean | -ka plus negation | Non-specialized | Irrealis -aachi | Non-actualized | Broadwell (2006: 243) |
| | Cora | Corachol/Uto-Aztecan | ti'ihkai | Specialized | No TAM | NA | Casad (1984: 423) |
| | Cupeño | Northern Uto-Aztecan/Uto-Aztecan | -nuk plus negation | Non-specialized | Irrealis -pi | Non-actualized | Hill (2005: 423) |
| | Francisco Leon Zoque | Mixe-Zoque/Mixe-Zoque | utim | Specialized | No TAM | NA | Bartholomew and Engel (1987: 386) |
| | Garifuna | Antillean Arawakan/Arawakan | uwey | Specialized | No TAM | NA | Haurholm-Larsen (2016: 271) |
| | Huasteca Nahuatl | Aztecan/Uto-Aztecan | para plus negation | Non-specialized | Irrealis -skia | Non-actualized | Authors' fieldwork |
| | | | inmā | Specialized | No TAM | NA | Authors' fieldwork |
| | Jamiltepec Mixtec | Mixtec/Oto-Manguean | kōtō | Specialized | No TAM | NA | Johnson (1988: 133) |
| | Ottawa | Algonquian/Algic | Conjunct order plus negation[a] | Non-specialized | Irrealis ji- | Non-actualized | Valentine (2009: 210) |
| | Papantla Totonac | Totonacan/Totonacan | xlakata plus negation | Non-specialized | Future na- | Non-actualized | Levy (1990: 138); Authors' fieldwork |
| | San Dionisio del Mar Huave | Huavean/Huavean | par plus negation | Non-specialized | Irrealis -om | Non-actualized | Salminen (2017: 218) |
| | San Cristóbal Lachirioag Zapotec | Zapotecan/Oto-Manguean | bė' plus negation | Non-specialized | Irrealis g- | Non-actualized | Michael Galant (personal communication) |

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| Macro-area | Language | Genus and family | Clause-linkage form | Clause-linkage type | TAM form | TAM type | References |
|---|---|---|---|---|---|---|---|
| | Slave | Athapaskan/Na-Dene | cha'ą́ plus negation (it is optional) | Specialized | Optative verb form | Non-actualized | Rice (1989: 1262–1263) |
| | Sochiapan Chinantec | Chinantecan/Oto-Manguean | kiʰˀniˀᵐˀlʲᴴ | Specialized | Past kaᴸ- | Actualized | Foris (2000: 323); Ana Martinez (personal communication) |
| | Yaqui | Cahita/Uto-Aztecan | betchi'ibo plus negation | Non-specialized | Irrealis -ne | Non-actualized | Guerrero (2017: 692); Zarina Estrada Fernandez (personal communication) |
| Papunesia | Abau | Abau/Sepik | senaw | Specialized | Perfective verb form | Actualized | Lock (2011: 346) |
| | Balantak | Celebic/Austronesian | kada' plus negation | Non-specialized | Irrealis verb form | Non-actualized | Van den Berg and Busenitz (2012: 243) |
| | | | dako | Specialized | No TAM | NA | Van den Berg and Busenitz (2012: 243) |
| | Ilocano | Northern Luzon/Austronesian | amagan:no | Specialized | No TAM | NA | Galvez Rubino (1997: 481) |
| | Kaluli | Bosavi/Trans-New Guinea | aba:na:ki | Specialized | No TAM | NA | Grosh and Grosh (2004: 76) |
| | Lewo | Oceanic/Austronesian | sa | Specialized | No TAM | NA | Early (1994: 451–452) |
| | Maybrat | Maybrat/Maybrat | re plus negation | Non-specialized | No TAM | NA | Dol (1999: 280) |
| | Menya | Nuclear-Angan/Trans-New Guinea | =nqä | Specialized | No TAM | NA | Whitehead (2004: 211) |
| | Moskona | East Bird's Head/East Bird's Head | jug | Specialized | No TAM | NA | Gravelle (2010: 353) |

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| Macro-area | Language | Genus and family | Clause-linkage form | Clause-link-age type | TAM form | TAM type | References |
|---|---|---|---|---|---|---|---|
| | Ternate | North Halmaheran/North Halmaheran | *afa mara* | Specialized | No TAM | NA | Hayami-Allen (2001: 201) |
| | Tetun | Central Malayo-Polynesian/Austronesian | *bat* plus negation | Non-specialized | Irrealis *bele* | Non-actualized | van Klinken (1999: 225) |
| | Tulil | Taulil-Butam | *ti* | Specialized | No TAM | NA | Meng (2018: 374–377) |
| | West Coast Bajau | Sama-Bajaw/Austronesian | *kang* | Specialized | No TAM | NA | Miller (2007: 421) |
| South America | Macushi | Cariban/Cariban | *namai* | Specialized | No TAM | NA | Abott (1991: 59–60) |
| | Mamainde | Nambiquaran/Nambiquaran | *-kʰijãnsiʔ* | Specialized | No TAM | NA | Eberhard (2009: 561) |
| | Mapuche | Araucanian/Araucanian | *-m* plus negation | Non-specialized | Irrealis *-a* | Non-actualized | Smeets (2008: 352) |
| | Movima | Isolate | *ka:* | Specialized | No TAM | NA | Haude (2006: 547) |
| | Paraguayan Guarani | Maweti-Guarani/Tupian | *ani haguã* | Specialized | No TAM | NA | Estigarribia (2020: 271) |
| | Paunaka | Bolivia-Parana/Arawakan | *masa* | Specialized | Irrealis verb form | Non-actualized | Terhart (2024: 646–647) |
| | Piapoco | Japura-Colombia/Arawakan | *ipíchaná* | Specialized | No TAM | NA | Klumpp (2019: 322) |
| | Urarina | Isolate | *kwataa* | Specialized | No TAM | NA | Olawsky (2006: 253) |
| | Yagua | Peba-Yagua | *ráynumaa* | Specialized | No TAM | NA | Payne (1985: 89) |
| | Yine | Purus/Arawakan | *ma-* plus elative case marker *-pa* | Specialized | No TAM | NA | Hanson (2010: 349) |

[a]Conjunct order is a verbal order that appears in subordinate clauses (Campana 1996).

# References

Abbott, Miriam. 1991. Macushi. In Desmond C. Derbyshire & Geoffrey K. Pullum (eds.), *Handbook of Amazonian languages*, 23–160. Berlin: De Gruyter Mouton.

Ahland, Colleen. 2012. *A grammar of Northern and Southern Gumuz*. Oregon: University of Oregon PhD thesis.

Aikhenvald, Alexandra Y. 2010. *Imperatives and commands*. Oxford: Oxford University Press.

Angelo, Denise & Eva Schultze-Berndt. 2016. Beware bambai – lest it be apprehensive. In Felicity Meakins & Carmel O'Shannessy (eds.), *Loss and renewal: Australian languages since colonization*, 255–296. Berlin: De Gruyter Mouton.

Bartholomew, Doris A. & Ralph Engel. 1987. Gramática Zoque. In Ralph Engel & Mary Engel (eds.), *Diccionario Zoque de Francisco León*, 329–416. Mexico: Instituto Lingüístico de Verano.

Bates, Elizabeth & Brian MacWhinney. 1989. Functionalism and the competition model. In Elizabeth Bates & Brian MacWhinney (eds.), *The cross-linguistic study of sentence processing*, 3–73. Cambridge: Cambridge University Press.

Beam, Mary, Betty Cridland & Paul Rasha Angwo. 1963. *Gwon this ki 'twam pa mo* [*Uduk New Testament*]. Suda: Sudan Interior Mission.

Blake, Barry J. 1979. *A Kalkatungu grammar*. Canberra: Research School of Pacific and Asian Studies, Australian National University.

Broadwell, George Aaron. 2006. *A Choctaw reference grammar*. Lincoln: University of Nebraska Press.

Bruce, Les. 1984. *The Alamblak language of Papua New Guinea (East Sepik)*. Canberra: Australian National University.

Campana, Mark. 1996. The conjunct order in Algonquian. *Canadian Journal of Linguistics* 41. 201–234.

Casad, Eugene. 1984. Cora. In Ronald W. Langacker (ed.), *Studies in Uto-Aztecan grammar vol. 4: Southern Uto-Aztecan grammatical sketches*, 151–459. Dallas: Summer Institute of Linguistics and the University of Texas at Arlington.

Comrie, Bernard. 1976. *Aspect*. Cambridge: Cambridge University Press.

Comrie, Bernard. 1985. *Tense*. Cambridge: Cambridge University Press.

Cristofaro, Sonia. 2003. *Subordination*. Oxford: Oxford University Press.

Dahl, Östen. 2004. *The growth and maintenance of linguistic complexity*. Amsterdam: John Benjamins.

Daniel, Michael & Nina Dobrushina. forthcoming. Apprehensives in East Caucasian. In Marine Vuillermet, Eva Schultze-Berndt & Martina Faller (eds.), *Apprehensional constructions in a cross-linguistic perspective*. Leipzig: Language Science Press.

Delfitto, Denis. 2020. Expletive negation. In Viviane Déprez & Maria Teresa Espinal (eds.), *The Oxford handbook of negation*, 255–268. Oxford: Oxford University Press.

Dol, Philomena Hedwig. 1999. *A grammar of Maybrat: A language of Bird's Head, Irian Jaya, Indonesia*. Leiden: Leiden University PhD thesis.

Dorvlo, Kofi. 2008. *A grammar of Logba (Ikpana)*. Utrecht: Rijksuniversiteit te Leiden doctoral dissertation.

Dryer, Matthew S. 2013. Genealogical language list. In Matthew S. Dryer & Martin Haspelmath (eds.), *The world atlas of language structures online*. Leipzig: Max Planck Institute for Evolutionary Anthropology.

Dum-Tragut, Jasmine. 2009. *Armenian*. Amsterdam: John Benjamins.

Early, Robert J. 1994. *A grammar of Lewo, Vanuatu*. Canberra: Australian National University doctoral dissertation.

Eberhard, David M. 2009. *Mamaindê grammar: A Northern Nambikwara language and its cultural context*. Amsterdam: Vrije Universiteit Amsterdam PhD thesis.

Elliott, Jennifer. 2000. Realis and irrealis: Forms and concepts of the grammaticalization of reality. *Linguistic Typology* 4(1). 55–90.

Englebretson, Robert & Wambũi Mũringo Wa-Ngatho. 2015. *A basic sketch grammar of Gĩkũyũ*. Houston: Rice University.

Espinal, Maria Teresa. 1992. Expletive negation and logical absorption. *The Linguistic Review* 9(4). 333–358.

Estigarribia, Bruno. 2020. *A grammar of Paraguayan Guarani*. London: UCL Press.

Foris, David P. 2000. *A grammar of Sochiapan Chinantec*. Dallas: SIL International and the University of Texas at Arlington.

Galvez Rubino, Carl Ralph. 1997. *A reference grammar of Ilocano*. Santa Barbara: University of California, Santa Barbara PhD thesis.

Giacon, John. 2014. *A grammar of Yuwaalaraay and Gamilaraay: A description of two New South Wales languages based on 160 years of records*. Canberra: Australian National University PhD thesis.

Göksel, Asli & Celia Kerslake. 2005. *Turkish, a comprehensive grammar*. London: Routledge.

Gravelle, Gloria J. 2010. *A grammar of Moskona: An East Bird's head language of West Papua, Indonesia*. Amsterdam: University of Amsterdam PhD thesis.

Green, Rebecca. 1995. *A grammar of Gurr-Goni*. Canberra: Australian National University PhD thesis.

Grosh, Andrew & Sylvia Grosh. 2004. Grammar essentials for the Kaluli language. Unpublished manuscript.

Guerrero, Lilian. 2017. On purpose and causal adverbial clauses in Yaqui. *International Journal of American Linguistics* 83. 679–718.

Hanson, Rebecca. 2010. *A grammar of Yine (Piro)*. Melbourne: LaTrobe University doctoral dissertation.

Harvey, Mark. 1986. *Ngoni Waray Amungal-Yang: The Waray language from Adelaide River*. Canberra: Australian National University MA thesis.

Haspelmath, Martin. 1993. *A grammar of Lezgian*. Berlin: De Gruyter Mouton.

Haspelmath, Martin. 2010. Comparative concepts and descriptive categories in cross-linguistic studies. *Language* 86(3). 663–687.

Haude, Katharina. 2006. *A grammar of Movima*. Nijmegen: Radboud Universiteit PhD thesis.

Haurholm-Larsen, Steffen. 2016. *A grammar of Garifuna*. Zürich: Universität Zürich PhD thesis.

Hayami-Allen, Rika. 2001. *A descriptive study of the language of Ternate, the Northern Moluccas, Indonesia*. Pittsburgh: University of Pittsburgh PhD thesis.

Heath, Jeffrey. 2005. *A grammar of Tamashek (Tuareg of Mali)*. Berlin: De Gruyter Mouton.

Heath, Jeffrey. 2015a. *A grammar of Togo Kan*. Unpublished manuscript.

Heath, Jeffrey. 2015b. *A grammar of Ben Tey (Dogon of Beni)*. Ann Arbor: University of Michigan.

Heath, Jeffrey. 2022. *A grammar of Jenaama-Sorogaama of Djenné (Pondo zone): Mande/Bozo language of Mali*. Unpublished manuscript.

Hellenthal, Anneke C. 2009. The morphology of adverbial clauses in Sheko. In Masangu Matondo, Fiona McLaughlin & Eric Potsdam (eds.), *Selected Proceedings of the 38th Annual Conference on African Linguistics*, 118–127. Somerville, MA: Cascadilla Proceedings Project.

Hetterle, Katja. 2015. *Adverbial clauses in cross-linguistic perspective*. Berlin: De Gruyter Mouton.

Hill, Jane H. 2005. *A grammar of Cupeño*. Berkeley: University of California Press.

Hosokawa, Komei. 1991. *The Yawuru Language of West Kimberley: A meaning-based description*. Canberra: Australian National University PhD thesis.

Hualde, José Ignacio & Jon Ortiz de Urbina. 2003. *A grammar of Basque*. Berlin: De Gruyter Mouton.

Jacques, Guillaume. 2021. *A grammar of Japhug*. Berlin: Language Science Press.

Jaggar, Phillip J. 2001. *Hausa*. Amsterdam: John Benjamins.

Jary, Mark & Mikhail Kissine. 2016. When terminology matters: The imperative as a comparative concept. *Linguistics* 54. 119–148.

Jin, Yanwei & Jean-Pierre Koenig. 2021. A cross-linguistic study of expletive negation. *Linguistic Typology* 25(1). 39–78.

Johnson, Audrey F. 1988. A syntactic sketch of Jamiltepec Mixtec. In C. Henry Bradley & Barbara E. Hollenbach (eds.), *Studies in the syntax of Mixtecan languages 1*, 11–150. Dallas: The Summer Institute of Linguistics and the University of Texas at Arlington.

Kawachi, Kazuhiro. 2007. *A grammar of Sidaama (Sidamo): A Cushitic language of Ethiopia*. Buffalo: University of New York at Buffalo PhD thesis.

Keen, Sandra L. 1983. Yukulta. In Robert M. W. Dixon & Blake Barry (eds.), *Handbook of Australian languages*, vol. 3, 190–304. Canberra: Australian National University Press.

Kenesei, István, Robert M. Vago & Anna Fenyvesi. 1998. *Hungarian*. London: Routledge.

Khalilova, Zaira. 2009. *A grammar of Khwarshi*. Utrecht: LOT.

Klumpp, Deloris A. 2019. *A grammar of Piapoco*. Dallas: Summer Institute of Linguistics and the University of Texas at Arlington.

Kortmann, Bernd. 1997. *Adverbial subordination: A typology and history of adverbial subordinators based on European languages*. Berlin: De Gruyter Mouton.

Kuteva, Tania, Bas Aarts, Gergana Popova & Anvita Abbi. 2019. The grammar of 'nonrealization'. *Studies in Language* 43. 850–895.

Lehmann, Thomas. 1993. *A grammar of modern Tamil*. Puducherry: Pondicherry Institute of Linguistics and Culture.

Levy, Paulette. 1990. *Totonaco de Papantla, Veracruz*. México: Centro de Investigación para la Integración Social.

Li, Charles N. & Sandra A. Thompson. 1981. *Mandarin Chinese: A functional reference grammar*. Berkeley: University of California Press.

Lichtenberk, Frantisek. 1995. Apprehensional epistemics. In Joan Bybee & Suzanne Fleischman (eds.), *Modality in grammar and discourse*, 293–327. Amsterdam: John Benjamins.

Lock, Arnold. 2011. *Abau grammar*. Ukarumpa, Papua New Guinea: SIL-PNG Academic Publications.

Luk, Ellison. 2023. *Clause linkage in Australian languages. A typological study*. Leuven: Katholieke Universiteit PhD thesis.

Lyons, John. 1977. *Semantics*. Cambridge: Cambridge University Press.

MacKay, Carolyn J. & Frank R. Trechsel. 2010. *Tepehua de Pisaflores, Veracruz*. México: Centro de Investigación para la Integración Social.

Mauri, Caterina, Alessandra Barotto & Simone Mattiola. 2023. Counterfactual conditionals: Linguistic variation in Italian and beyond. In Silvia Ballarè & Guglielmo Inglese (eds.), *Sociolinguistic and typological perspectives on language variation*, 155–195. Berlin: De Gruyter Mouton.

Mauri, Caterina & Andrea Sansò. 2012. The reality status of directives and its coding across languages. *Language Sciences* 34. 147–170.

Meng, Chenxi. 2018. *A grammar of Tulil*. Melbourne: LaTrobe University PhD thesis.

Merlan, Francesca C. 1994. *A grammar of Wardaman: A language of the Northern territory of Australia*. Berlin: De Gruyter Mouton.

Miestamo, Matti. 2005. *Standard negation: The negation of declarative verbal main clauses in typological perspective*. Berlin: De Gruyter Mouton.

Miller, Mark T. 2007. *A grammar of West Coast Bajau*. Arlington: University of Texas at Arlington PhD thesis.

Miyaoka, Osahito. 2012. *A grammar of Central Alaskan Yupik: An Eskimo language*. Berlin: De Gruyter Mouton.

Mushin, Ilana. 2012. *A grammar of (Western) Garrwa*. Berlin: De Gruyter Mouton.

Nikolaeva, Irina. 2014. *A grammar of Tundra Nenets*. Berlin: De Gruyter Mouton.

Nourzaei, Maryam, Carina Jahani, Erik Anonby & Abbas Ali Ahangar. 2015. *Koroshi: A corpus-based grammatical description*. Uppsala: Acta Universitatis Upsaliensis.

Nuyts, Jan. 2015. Subjectivity: Between discourse and conceptualization. *Journal of Pragmatics* 86. 106–110.

Nuyts, Jan, Pieter Byloo & Janneke Diepeveene. 2010. On deontic modality, directivity, and mood: The case study of Dutch *mogen* and *moeten*. *Journal of Pragmatics* 42. 16–34.

Olawsky, Knut J. 2006. *A grammar of Urarina*. Berlin: De Gruyter Mouton.

Olguín Martínez, Jesús. 2023. Precedence clauses in the world's languages: Negative markers need not be expletive. *STUF-Language Typology and Universals* 76. 587–634.

Olguín Martínez, Jesús. 2024a. The interaction of irrealis markers and blocking effects in counterfactual conditionals. *Theoretical implications Linguistic Typology* 29(2). 361–403.

Olguín Martínez, Jesús. 2024b. Semantically negative clause-linkage: 'Let alone' constructions, expletive negation, and theoretical implications. *Linguistic Typology* 28. 1–52.

Olguín Martínez, Jesús. 2024c. The interaction of standard negation in clauses of substitution: A typological account. *Folia Lingüística* 58. 157–190.

Olguín Martínez, Jesús. 2024d. 'Until' clauses and expletive negation in Huasteca Nahuatl. *Studies in Language* 48. 753–780.

Palmer, Frank R. 1986. *Mood and modality*. Cambridge: Cambridge University Press.

Payne, Doris. 1985. *Aspects of the grammar of Yagua: A typological perspective (Peru)*. Los Angeles: University of California, Los Angeles PhD thesis.

Rice, Keren. 1989. *A grammar of Slave*. Berlin: De Gruyter Mouton.

Roberts, John. 1990. Modality in Amele and other Papuan languages. *Journal of Linguistics* 26. 363–401.

Round, Erich R. & Greville G. Corbett. 2020. Comparability and measurement in typological science: The bright future for linguistics. *Linguistic Typology* 24. 489–525.

Salminen, Mikko. 2017. *A grammar of Umbeyajts as spoken by the Ikojts people of San Dionisio del Mar, Oaxaca, Mexico*. Cairns: James Cook University PhD thesis.

Schmidtke-Bode, Karsten. 2009. *A typology of purpose clauses*. Amsterdam: John Benjamins.

Smeets, Ineke. 2008. *A grammar of Mapuche*. Berlin: De Gruyter Mouton.

Smith-Dennis, Ellen. 2021. Don't feel obligated, lest it be undesirable: The relationship between prohibitives and apprehensives in Papapana and beyond. *Linguistic Typology* 25. 413–459.

Smits, Helena J. 2017. *A grammar of Lumun, a Kordofanian language of Sudan*. Utrecht: LOT.

Sohn, Ho-Min. 2009. The semantics of clause linking in Korean. In Robert M. W. Dixon & Alexandra Aikhenvald (eds.), *The semantics of clause-linking: A cross-linguistic typology*, 285–317. Oxford: Oxford University Press.

Sumbatova, Nina R. & Rasul O. Mutalov. 2003. *A grammar of Icari Dargwa*. Munich: Lincom.

Talmy, Leonard. 1988. Force dynamics in language and cognition. *Cognitive Science* 12(1). 49–100.

Talmy, Leonard. 2000. *Toward a cognitive semantics: Concept structuring systems*. Massachusetts: The MIT Press.

Terhart, Lena. 2024. *A grammar of Paunaka*. Berlin: Language Science Press.

Thompson, Sandra, Robert Longacre & Shin Hwang. 2007. Adverbial clauses. In Timothy Shopen (ed.), *Language typology and syntactic description*, 22nd edn., Complex constructions, 237–300. Cambridge: Cambridge University Press.

Timberlake, Alan. 2007. Aspect, tense, mood. In Timothy Shopen (ed.), *Language typology and syntactic description, Vol. 2: Complex constructions*, 2nd edn., 280–333. Cambridge: Cambridge University Press.

Trudgill, Peter. 2011. *Sociolinguistic typology: Social determinants of linguistic complexity*. Oxford: Oxford University Press.

Valentine, J. Randolph. 2009. The semantics of clause linking in Ojibwe. In Robert M. W. Dixon & Alexandra Aikhenvald (eds.), *The semantics of clause linking: A cross-linguistic typology*, 193–217. Oxford: Oxford University Press.

Van den Berg, René & Robert L. Busenitz. 2012. *A grammar of Balantak: A language of Eastern Sulawesi*. Dallas: Summer Institute of Linguistics International.

van der Auwera, Johan & Vladimir Plungian. 1998. Modality's semantic map. *Linguistic Typology* 2(1). 79–124.

van Klinken, Catharina Lumien. 1999. *A grammar of the Fehan Dialect of Tetun, an Austronesian language of West Timor*. Canberra: Research School of Pacific and Asian Studies, Australian National University.

Van linden, An & Jean-Christophe Verstraete. 2011. Revisiting deontic modality and related categories: A conceptual map based on the study of English modal adjectives. *Journal of Pragmatics* 43. 150–163.

Van Olmen, Daniël. 2021. On order and prohibition. *Studies in Language* 45(3). 520–556.

Van Olmen, Daniël. 2024. Specialization and finiteness (a)symmetry in imperative negation: With a comparison to standard negation. *Linguistic Typology* 28. 205–252.

Verstraete, Jean-Christophe. 2001. Subjective and objective modality. *Journal of Pragmatics* 33. 1505–1528.

Verstraete, Jean-Christophe. 2005. Scalar quantity implicatures and the interpretation of modality. Problems in the deontic domain. *Journal of Pragmatics* 37. 1401–1418.

Verstraete, Jean-Christophe. 2006. The role of mood marking in complex sentences: A case study of Australian languages. *WORD* 57. 195–236.

Verstraete, Jean-Christophe. 2010. Focus, mood and clause linkage in Umpithamu (Cape York Peninsula, Australia). In Isabelle Bril (ed.), *Clause linking and clause hierarchy: Syntax and pragmatics*, 451–468. Amsterdam: John Benjamins.

Vuillermet, Marine. 2018. Grammatical fear morphemes in Ese Ejja: Making the case for a morphosemantic apprehensional domain. *Studies in Language* 42. 256–293.

Whitehead, Carl R. 2004. *A reference grammar of Menya, an Angan language of Papua New Guinea*. Manitoba: University of Manitoba PhD thesis.

Wolff, Phillip. 2007. Representing causation. *Journal of Experimental Psychology* 136. 82–111.

Worku, Firew G. 2021. *A grammar of Mursi: A Nilo-Saharan language of Ethiopia*. Leiden: Brill.

Xrakovskij, Viktor S. (ed.). 2001. *Typology of imperative constructions*. Munich: Lincom.

Yadav, Ramawatar. 1996. *A reference grammar of Maithili*. Berlin: De Gruyter Mouton.

Yip, Po-Ching & Don Rimmington. 2004. *Chinese: A comprehensive grammar*. London: Routledge.