Chapter 1

Bridging constructions in typological perspective

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In this chapter, we undertake a cross-linguistic examination of bridging constructions, which we define as the sequence of two clauses: the first clause (called the reference clause) ends a discourse unit, the second clause (called the bridging clause) typically repeats the first clause at the beginning of a new discourse unit. Based on published language data and data from the volume, we identify three different types of constructions subsumed under the label bridging construction (§2 and §3): recapitulative linkage, summary linkage, and mixed linkage. They differ in the form that the bridging clause takes on: broadly speaking, verbatim lexical recapitulation of the reference clause; a light verb summarizing the reference clause; or a mix of these two strategies. Because bridging constructions lie at the interface of discourse and syntax, we dedicate §4 to explaining their discourse functions. Amid the cross-linguistic variation, we found two recurrent discourse functions: emphasizing sequentiality and cohesively structuring discourse. Finally, we establish a list of questions to guide the documentation of these linguistic patterns.

1 Preliminaries

While reference grammars and the typological literature have a long tradition describing syntactic phenomena within a clause, cross-linguistic research beyond the level of the clause, especially the role that clause-level phenomena play in discourse structure, is comparatively scarce. This volume presents a case study

of one such phenomenon, variously labelled in the literature as *tail-head linkage* (de Vries 2005), *head-tail linkage* (Fabian et al. 1998: 163), *tail-head recapitulation* (Farr 1999: 197) *recapitulation clauses* (Genetti 2007: 438; Stirling 1993: 17), *echo clauses* (Heath & Hantgan 2018), or *backgrounding repetition* (McKay 2008: 10), and the less-described variant *generic verb recapitulation* (Farr 1999: 204, 337) or *summary-head linkage* (Thompson et al. 2007: 274) to refer to constructions which contribute to discourse cohesion and structuring in that they "link sentences or paragraphs together, usually by repetition of at least part of the previous clause" (Thurman 1975: 342).[1]

Tail-head linkage is found in a wide number of genetically and geographically diverse languages. It exists in Wolaitta, an Omotic language of Ethiopia (Azeb Ahma, p.c.) and is attested in Bangime (isolate, eastern Mali; Heath & Hantgan 2018); Biak (Austronesian, Indonesia; Plattèl 2013); Cavineña (Tacanan, Bolivia; Guillaume 2011); Creek (Muskogean, USA; Martin 1998); Evenki (Tungusic, Russia; Grenoble 2012); Ngandi (southeastern Arnhem Land, Australia; Heath 1985); Rembarrnga (central Arnhem Land, Australia; McKay 2008); Tariana (Arawak, Brazil; Aikhenvald forthcoming); Tirax (Oceanic, Vanuatu; Brotchie 2009); and Yurakaré (unclassified, Bolivia; van Gijn 2014), to name a few (see also the list in Guillaume 2011: 111). But to the best of our knowledge, this type of linkage has never been the subject of any substantial cross-linguistic study. It is the intent of this volume to partly fill this gap, proposing in this introductory chapter general characteristics of this type of linkage and presenting in subsequent chapters descriptive studies of the phenomenon in unrelated languages.

To compare tail-head linkage across languages, we survey the relevant published literature and extract the features which define this linguistic pattern. We then formulate a comparative concept (in the sense of Haspelmath 2010; 2016; and Croft 2016) presented in (1). As the data revealed the existence of three distinct types of linkage, we adopt the term BRIDGING CONSTRUCTION as a hypernym to avoid terminological confusion between *heads* and *tails*, and to capture the full range of patterns, of which only a subset may be subsumed under the labels *tail*- or *summary-head linkage*.[2]

(1)   Bridging constructions: A comparative concept

A bridging construction is a linkage of three clauses. The first clause of the construction (i.e., the reference clause) is the final clause in a unit of

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[1]The origin of the term *tail-head linkage* is unclear. Although this term has a long tradition in chemistry, its first usage in linguistics could be Longacre (1968).

[2]Not to be confused with the bridging implicature of Clark (1975). We thank Martin Haspelmath for this reference.

discourse. The second clause (i.e., the bridging clause) recapitulates the reference clause. It usually immediately follows the reference clause but it acts as the initial (albeit non-main) clause of a new discourse unit. The primary discourse function of a bridging construction is to add structure and cohesion: recapitulation backgrounds the proposition of the reference clause and foregrounds the clause following the bridging clause. This third clause is discourse-new and typically sequentially ordered.

In the rest of this section, we refine the concepts in (1), while in the following sections we review the formal properties (§2 and §3) and discourse functions (§4) of bridging constructions across individual languages. The distinction between repetition and bridging construction is discussed in §5. We include suggestions for future research in §6. Lastly, the Appendix lists a series of questions that should be addressed when describing bridging constructions in individual languages.

1.1 The constructions

The structure of a bridging construction is represented schematically in (2). There are two discourse units linked by the construction. We call the final clause of the first unit the REFERENCE CLAUSE (a clause which is generally known as the *tail*). The second discourse unit begins with what we label the BRIDGING CLAUSE (that is, traditionally the *head*), a clause which refers back to the reference clause. We adopt the convention of underlining the reference clause and bolding the bridging clause throughout this volume.

(2)   [...[Reference Clause]]_{discourse unit} [[**Bridging Clause**]...]_{discourse unit}

The linked discourse units are typically, though not necessarily, multiclausal. The nature of these units (variously referred to in the literature as sentences or clause-chains, paragraphs or discourse episodes) remains an open question, which we address in §4. But importantly, it is the presence of both the reference and bridging clauses, their formal representation, the semantic relationship between these two clauses, and their functions in discourse that create a bridging construction and that set it apart from other clause linking techniques.

The three types of bridging constructions that we distinguish consist of a reference clause and a bridging clause. Their differences lie in the formulation of the bridging clause. The first type, called RECAPITULATIVE LINKAGE (formerly *tail-head linkage*), involves the repetition of the predicate of the reference clause in the bridging clause, as shown in (3).

(3)   Nahavaq (Oceanic, Vanuatu; Dimock 2009: 259)

   a.   *...en <u>re-tur-gcor</u>   <u>no-pon</u>   <u>no-qond</u>.*
        and 3PL-sew-block N.PREF-opening N.PREF-basket

        '...and they sewed up the opening of the basket.'

   b.   ***Re-tur-gcor   no-pon   no-qond***,   *re-gcur   i-gcisgces.*
        3PL-sew-block N.PREF-opening N.PREF-basket 3PL-cause 3SG-tight

        'After they sewed up the opening of the basket, they tightened it.'

The second type is here called SUMMARY LINKAGE (formerly *summary-head linkage*). It does not repeat the predicate of the reference clause but contains in the bridging clause an anaphoric predicate, a light verb, a generic verb, or a demonstrative verb, such as *tangamba* 'do thus' in (4b), which anaphorically refers to the reference clause.

(4)   Siroi (Papua New Guinea; van Kleef 1988: 150)

   a.   *<u>Piro</u>   <u>mbolnge</u> <u>ngukina</u>.*
        garden LOC   planted

        'She planted it in the garden.'

   b.   ***Tangamba*** *nu kinyna*
        doing.thus she slept

        'After having done thus, she slept.'

We call the third type of bridging construction MIXED LINKAGE. This type of construction, exemplified in (5), is a combination of recapitulative and summary linkages in that the bridging clause contains both the lexical predicate of the reference clause and a generic or demonstrative predicate. The bridging clause in (5b) includes the verb *reke* 'cross' of the reference clause in addition to a manner demonstrative *jadya* 'thus' and the auxiliary *ju* 'be' (which are used in a type of summary linkage in that language).

(5)   Cavineña (Tacanan, Bolivia; Guillaume 2011: 129)

   a.   *<u>Ji-da=dya=di</u>   <u>ka-reke-ti-kware</u>*
        good-ADJ.SUF=FOC=EMPH REFL-cross-REFL-REM.PST

        'I crossed well.'

   b.   ***Ka-reke-ti   jadya ju-atsu*** *tapeke=piji   ara-kware*
        REFL-cross-REFL thus   be-SS   trip.food=DIM eat-REM.PST

        'After crossing, I ate the food.'

1.2 The clause

We take the CLAUSE to be a comparative concept (following Haspelmath 2010: 672), involving a predicate (verbal or non-verbal) and its argument(s). A FINAL CLAUSE is taken to be the last clause in a series of formally linked clauses. A final clause can be a MAIN CLAUSE or a NON-MAIN CLAUSE. By main clause we mean a clause that can stand by itself as an independent complete utterance. The verbal predicate of a main clause is inflected for all required grammatical categories (i.e., it is finite), and (generally) has a falling intonation (Fitzpatrick 2000). A main clause can be seen as the equivalent of an independent sentence; however, we avoid the term "sentence" itself, as it is not readily applicable to many languages (Dixon 2010: 132–133; Longacre 1970; Miller 1981; Mithun 2005a). A non-main clause cannot stand by itself as an independent complete utterance; it is dependent on another clause.[3] The dependency can be marked in any level of the grammar, typically either (i) in the morpho-syntax: e.g., a linker marks a clause as dependent; the verbal predicate of the clause is only partially inflected or not inflected at all (i.e., it is non-finite); or both a linker and reduced inflection occur, etc.; or (ii) in the prosody: morpho-syntactically, the clause is inflected like a main clause but the continuation intonation reveals the dependency (Bolinger 1984; Chafe 2003: 9–10; Genetti & Slater 2004: 23–24, 31; Mithun 2005b). The syntactic status of non-main clauses is notoriously difficult to define especially for some of the languages in this volume which make use of CLAUSE CHAINS (i.e., non-main clauses in series). Non-main clauses have been described as adverbial clauses, pseudo-subordinate, co-subordinate, pseudo-coordinate clauses, medial clauses, or converbs. To avoid language-specific analysis of dependency types, we use the term NON-MAIN CLAUSE as a typologically generic cover term in this introductory chapter.[4]

1.3 Bridging constructions in discourse

Some languages possess only one type of bridging construction while others have developed more. Nahavaq seems to only use recapitulative linkage, but in Siroi, recapitulative and summary linkages co-exist, while Cavineña shows all three types of linkage. Needless to say, the functions that bridging constructions can fulfil in discourse are varied. However, there are also some common

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[3]We do not consider here insubordinate clauses (Evans 2012), which are formally non-main clauses that have gained independent status.

[4]On clausal dependencies, see Cristofaro 2005; Culicover & Jackendoff 1997; Haiman & Thompson 1984; Haspelmath 1995, Haspelmath 2004; Longacre 2007a: 398–417; Van Valin Jr 1984; or Yuasa & Sadock 2002; among others.

trends across languages. The discursive function that is most often associated with bridging constructions is sᴍᴀᴛɪᴄ ᴄᴏɴᴛɪɴᴜɪᴛʏ (in de Vries' 2005 terminology). That is, the linkage is used to highlight the succession of events, as in Nahavaq (Dimock 2009: 259); it supports the continuous flow of the story's main events, such as in Siroi (van Kleef 1988: 151–153); and it foregrounds the "important milestones in the story" and "advances the action of the narrative" in Cavineña (Guillaume 2011: 118–120). This trend is possible owing to the fact that recapitulation "transforms the repeated item from new into given information" (Brown 2000: 224–225) which adds discourse cohesion. The concept of givenness in this context is closest to the sense of sᴀʟɪᴇɴᴄʏ outlined by Prince (1981: 228) where "the speaker assumes that the hearer has or could appropriately have some particular thing/entity in his/her CONSCIOUSNESS at the time of hearing the utterance." In this sense, a bridging construction ensures that the event described in the reference clause is salient in the mind of the hearer.

2 Bridging constructions: formal characteristics

In §2.1, we discuss the position of the reference and bridging clauses in a bridging construction, before addressing the syntactic status of these clauses in §2.2 and §2.3 respectively.

2.1 Layout

A common assumption regarding the position of the clauses is that the reference clause is "repeated in the first clause of the next chain" (de Vries 2005: 363); that is, the reference clause and the bridging clause are parts of two distinct discourse units, with the bridging clause a constituent of the second unit. This assumption holds in all languages we have seen so far. While it is typically the case that the reference clause *immediately* precedes the bridging clause, it is also possible for a clause to intervene between reference and bridging clause. A case in point is the bridging clause in (6c) which is separated from the reference clause in (6a) by another clause in (6b). A similar phenomenon is reported in Korowai (de Vries 2019 [this volume]).

(6) Jingulu (non-Pama-Nyungan, Australia; Pensalfini 2015)

    a. *Buba-ngka <u>dakard</u> <u>karuma-nya-yi</u>*
        fire-ᴀʟʟ   warm warm-2sɢ-ꜰᴜᴛ
        'You warm it in the fire.'

b. *Nyirrma-nya-yi,*
make-2SG-FUT

'You'll make it (then)'

c. **dakard karuma-nya-yi**,
warm   warm-2SG-FUT

'having warmed it,'

d. *ila-nya-yi   langa kijurlurlu.*
put-2SG-FUT PREP stone

'you'll put it on the stone.'

In the corpus assembled for this volume, composed mostly of monologue narratives, a maximum of four clauses can separate the reference and the bridging clause, as in White Hmong (Jarkey 2019 [this volume]).

2.2 Morphosyntactic properties of reference clauses

The reference clause is typically cast in the declarative mood. This can arise from the discourse function of bridging constructions, linking discourse units in narrative texts, but it may be simply a result of a data bias, as the data for this study have been drawn mainly from narratives. Occasional examples of non-declarative reference clauses include exclamative clauses in Mavea (Guérin 2019 [this volume]), interrogatives in Tsezic languages (Forker & Anker 2019 [this volume]) and imperatives in Korowai, shown in (7).

(7) Korowai (Papua New Guinea; de Vries 2019 [this volume])

a. *...if-e=xa   bando-xe-nè le-mén=é*
here-TR=CONN bring-go-SS eat-IMP:2PL=EX

'...you should take this and eat it!'

b. **le-mén=daxu** *noxu lép-telo-xai=xa...*
eat-IMP:2PL=SS 1PL ill-be[NON1SG]-IRR=CONN

'You must eat it and if we fall ill...'

When reference clauses are main clauses, they show no restrictions in terms of the tense, aspect, modality, negation, predicate type, etc. They can contain a verbal predicate (as in the examples cited to this point) or a nominal predicate, as shown in (8). The bridging clause then repeats the nominal with a copula verb which bears a dependency marker.

(8) Eibela (Papua New Guinea; Aiton 2019 [this volume])

    a. *[ɛjaːgɛ   do-si=ki]ₘₑ𝒹ᵢₐₗ   [uʃu]fᵢₙₐₗ*
       butterfly STAT-MED:PFV=CONT egg

       'There being a butterfly then there is an egg.'

    b. *[uʃu do-si=ki]ₘₑ𝒹ᵢₐₗ   [kɛkɛbɛaːnɛ]fᵢₙₐₗ*
       egg   STAT-MED:PFV=CONT caterpillar

       'There being an egg then there is a caterpillar.'

2.3 Morphosyntactic properties of bridging clauses

As mentioned in (1), bridging clauses are, at some level or other in the grammar, dependent clauses. We found three different dependency relations. First, the dependency is marked in the morphology. In some of the languages we investigated, dependent clauses show morphological modifications or morphological restrictions relative to main clauses in the tense, aspect, modality markers, etc., that they can be specified for. For example, in (7) above, there is no change in mood between the reference and bridging clauses; however, the bridging clause bears a switch-reference marker, which identifies it as a dependent (and non-main clause). In Tsezic languages (Forker & Anker 2019 [this volume]), bridging clauses all use converbs, which is the default strategy in these languages to express dependency (or in these languages, subordination). In White Hmong, bridging clauses are reduced main clauses: they cannot contain pragmatic markers usually occurring at the edge of a main clause nor coordinators or markers of temporal sequence (Jarkey 2019 [this volume]).

Second, the dependency is marked in the prosody. Some languages do not use morphological means to mark dependent clauses but utilize instead continuation prosody to indicate the dependency. Consider Rembarrnga (McKay 2008: 5, 10). As in many Australian languages, a clause boundary is best defined by prosody. All elements in a single intonation contour are considered part of one clause. In Rembarrnga, bridging clauses are part of the same intonation contour as the clause that follows, indicating that they are not independent clauses. In our corpus, three languages use prosody to indicate dependency: Mavea (Guérin 2019 [this volume]), Logoori (Sarvasy 2019 [this volume]) and Jingulu (Pensalfini 2015). In Mavea, both reference and bridging clauses are morphologically equivalent to main clauses. Bridging clauses are overtly marked as dependent clauses by their intonation. The reference clause ends in a falling or level intonation, while the

bridging clause ends in a rising intonation to indicate continuation. This is visible in Figure 1 representing the sequence in (9).

(9)   Mavea (Oceanic, Vanuatu; Guérin 2019 [this volume])

    a. <u>*Ko-viris*</u>   <u>*i-si*</u>   <u>*na*</u> <u>*kuku. [1s]*</u>
       2SG-squeeze 3SG:IRR-go.down LOC pot

       'You squeeze (out the juice) down in a pot.'

    b. **ticket*Ko-viris*** **ticket*i-si***   **ticket*na*** **ticket*kuku*** *ro*   *[1.15s]*
       2SG-squeeze 3SG:IRR-go.down LOC pot   then

       'You squeeze (out the juice) down in a pot then,'

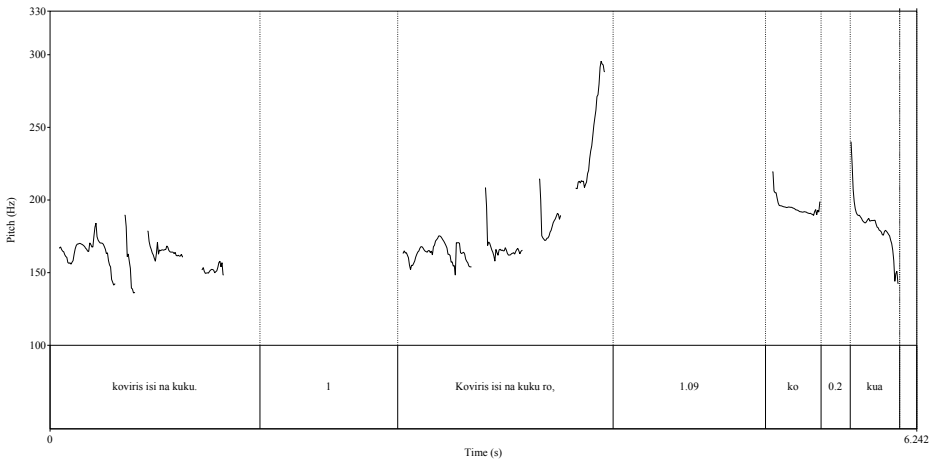   c. *ko-ku-a.*
       2SG-boil-3SG

       'you boil it.'

Figure 1: Intonation contour of example (9) extracted with PRAAT.

In Mavea, dependent clauses need not be marked morphologically. Adverbials also seldom make use of overt non-main clause markers (e.g., complementizer or subordinator). They resort instead to prosody (e.g., rising intonation) to mark continuation and indicate grammatical or discourse dependency. The Jingulu data concur: the bridging clause is marked with the same intonation that encodes given information. However, in the absence of fluent speakers today, the Jingulu data is less conclusive (Rob Pensalfini, p.c.).

Logoori is interesting in that respect. In this language (as in other Bantu languages), the predicate of the first clause in the chain is finite, the medial and

final clauses of the chain are non-finite. Thus, in Bantu bridging constructions, the reference clause is non-finite (being the last in the chain) and the bridging clause is finite (being the first in the chain). However, bridging clauses in Logoori are also prosodically dependent, while reference clauses are prosodically main clauses (see Sarvasy 2019 [this volume]).

Third, the dependency is marked both in the morphology and the prosody. Some languages may use both morphology and non-final intonation to mark clause dependency. In the Australian language Ngandi, the bridging clause contains a morpheme indicating subordination. In addition, the clause ends on a rising continuation pitch while the clause following it has falling terminal pitch (Heath 1985: 99).

As these different dependency strategies reveal, the general profile of a language influences the formal characteristics of the bridging constructions in that language (see de Vries 2005; Seifart 2010: 898). It is worth mentioning too that in some cases, a subordinator is present to overtly mark the bridging clause as dependent. Thus in White Hmong, the temporal relationship between the reference and the bridging clause can be explicit, as in (10) with *thaum* 'when' or implied, as in (11).

(10)   White Hmong (Hmong-Mien, Laos; Jarkey 2019 [this volume])

    a. *...ces   nws poj.niam thiaj   xauv.xeeb tau ob   leeg tub ntxaib.*
       and.then 3SG woman   so.then give.birth get two CLF son twin

       '...and so then his wife gave birth to twin boys.'

    b. **Thaum xauv.xeeb tau nkawd...**
       when   give.birth get 3DU

       'When she had given birth to them...'

(11) a. CES   *txawm mus ntsib nraug zaj.*
       and.then then   go   meet young dragon

       'and then (she) went (and) met a young dragon.'

    b. **Ntsib nraug zaj,**
       meet young dragon

       '(She) met the young dragon...'

In this volume, we do not separate out bridging clauses with an overt lexical subordinator such as (10) from bridging clauses whose sole indicators of dependency are prosodic like (11) or morphological. Although there could be discourse

differences between the different dependency markings, we do not have enough data at this stage to argue that (10) is a less prototypical bridging construction than (11) for example.

3 Types of bridging constructions

The two types of bridging constructions most commonly described across languages are RECAPITULATIVE LINKAGE and SUMMARY LINKAGE. They can be distinguished on the basis of the predicate that their bridging clause contains: in recapitulative linkage, the bridging clause repeats at least the predicate of the reference clause either verbatim or with a close paraphrase; whereas the bridging clause of a summary linkage contains an anaphoric predicate recapping the event/state of the reference clause. A third type of bridging construction emerged from our data collection and comparative studies. We call it here MIXED LINKAGE. This type of bridging construction combines both recapitulative and summary linkages. We discuss these three types of linkage in turn below.

3.1 Recapitulative linkage

Every definition of bridging construction that we encountered in the literature refers to a portion of discourse being *repeated* elsewhere. What is generally assumed is that the repetition is more or less exact, i.e., exact enough so that the reference and bridging clauses can be identified as expressing the same proposition with the same lexical items. There exist, however, many different types of repetition (Brown 2000: 224). We take as our starting point a bridging clause with apparent verbatim repetition. In Tirax (as in many other Oceanic languages of Vanuatu), the bridging clause in (12b) is morphologically identical to the reference clause in (12a). The only difference is the rising intonation which marks the bridging clause as non-final, as described for (9).

(12)   Tirax (Oceanic, Vanuatu; Brotchie 2009: 309)

    a.   *tnah* *haxal* *i=mɛ*
        devil INDF 3SG:REAL=come

        'and a devil came along.' (falling intonation)

    b.   **tnah haxal i=mɛ**
        devil INDF 3SG:REAL=come

        'A devil came,' (rising intonation)

    c. *i=rŋo...*
       3SG:REAL=hear
       'and he heard...'

The term VERBATIM repetition, then, does not precisely represent the content of a bridging clause (despite this common assumption regarding recapitulative linkage): at the very least, changes required to accord a bridging clause dependent status are generally applied, be they purely intonational as in (9), or morphological as in (13), where the predicate 'become strong' is marked as non-final in (13b).

(13)   Nabak (Papua New Guinea; Fabian et al. 1998: 164)

    a. *...met-me*   <u>*ku-mann*</u>   <u>*ma-katik-ngang*</u>   <u>*be-in*</u>
       go-MED:3SG:DS nail-MED:1PL:DS CONT-strong-NMLZ become-3SG:PRS
       '...and it goes [in its proper place] and we nail it and [the floor] becomes strong.'

    b. ***Ku-mann***   ***katik-ngang be-me****...*
       nail-MED:1PL:DS strong-NMLZ become-MED:3SG:DS
       'We nail it and it becomes strong...'

The Nabak example also demonstrates that although typically a single reference clause is repeated in the bridging clause, it is possible to find two clauses repeated in their entirety. The clauses with predicates 'nail' and 'become strong' are both repeated in the bridging clause in (13b). We have not yet found more than two clauses repeated.

Departure from verbatim repetition affects different constituents of the reference clause. Adverbials or arguments may be omitted or the verbal inflection may differ. At least implicitly, the predicate of the reference and bridging clauses is expected to remain identical, but as we show below, the predicate is not immune to replacement. In the following sections we review four types of variation found in the languages surveyed: (1) modifications, the bridging and reference clause contain the same information but in different order or form; (2) omission, the bridging clause omits some material present in the reference clause; (3) addition, the bridging clause contains information, whether lexical or grammatical, which was not present in the reference clause; (4) substitution, where some of the information in the reference clause is replaced in the bridging clause; and (5) a mixture of these features. What is common to all cases of variation (and crucial for bridging constructions) is that the propositional content of the bridging clause is equivalent to the content in the reference clause, with no additional information added to the bridging clause.

3.1.1 Modifications

Modification refers to cases where bridging clauses do not contain omissions from the reference clause nor additions per se, but are not strictly verbatim either. Modification may affect the lexical content of the bridging clause. For example, full NPs in a reference clause may be pronominalized in the bridging clause, as in the Oceanic language Lolovoli. The object in the reference clause (*diringigi* 'the stone oven') in (14a), is repeated in pronominal form (=*e* '3SG.O') in the bridging clause (14b). Similar facts apply to Cavineña: the object *tapeke* 'food' in (15a) is pronominalized with the demonstrative *tumeke* 'that' in (15b). Nothing in the grammar of these languages would prevent a full NP from occurring in a dependent clause.

(14) Lolovoli (Oceanic, Vanuatu; Hyslop 2001: 427)

    a. *Da=mo*   *sio*   *na* *diringi-gi*
        1PL:INCL=REAL lay.stones ACC stone.oven-ASSOC

        'We lay stones for the stone oven.'

    b. **Da=mo**   **sio=e**   *mo* *rovo,*
        1PL:INCL=REAL lay.stones=3SG:O REAL finish

        'We lay all the stones,'

    c. *ale* *da=mo*   *goa*   *na* *qeta-gi...*
        CONJ 1PL:INCL=REAL scrape.dirt ACC taro-ASSOC

        'then we scrape the dirt off the taro...'

(15) Cavineña (Tacanan, Bolivia; Guillaume 2011: 129)

    a. *Ka-reke-ti*   *jadya ju-atsu* *tapeke=piji* *ara-kware*
        REFL-cross-REFL thus be-SS trip.food=DIM eat-REM.PST

        'After crossing, I ate the food.'

    b. **Tumeke ara-tsu** *era*   *ijeti peta-ya.*
        that   eat-SS 1SG:ERG sun look.at-IPFV

        'After eating that (food), I looked at the sun (to know what time it was).'

Other modifications include word order: the order of the phrases in the reference and bridging clauses does not match. For example in Sunwar, *aga* is emphasized and placed at the end of the refence clause in (16a), whereas in the bridging clause in (16b), it is restored to its non-emphasized position.

(16)   Sunwar (Himalayan, Nepal; Schulze & Bieri 1973: 391)

    a. *Minu meko <u>khuy</u>   <u>oo-ma</u>   <u>ʼbaakt</u> <u>aga</u>*
       and   these thieves enter-3PL ?   inside

       'And the thieves entered into the house.'

    b. **khuy aga   oo-ma   ʼbaakta**
       thieves inside enter-3PL ?

       'The thieves having entered...'

Placement at the end of a clause for emphasis is not a feature associated with a particular clause type in Sunwar. Although more common in reference clauses, it is also found in bridging clauses (Schulze & Bieri 1973: 391).

3.1.2 Omissions

Omissions in the bridging clause target lexical items, in particular arguments and adverbials. This is the case in Ono (Phinnemore 1998: 121) and Wambon (de Vries 2005). In Wambon in (17b), it is the adverbial *alipke* 'afternoon' that is not included in the bridging clause.

(17)   Wambon (Papua New Guinea; de Vries 2005: 373)

    a. *Sanopkuniv-eve ilo   nggapmo-kndevan-o ko   <u>alipke-lo</u>*
       Tuesday-that   go.down:ss cut-1PL:PRS-CONN   go:ss afternoon-ss

       <u>*ndave-levambo*</u>
       return-1PL:PST

       'On Tuesday afternoon we went down and cut (trees) until we returned in the late afternoon.'

    b. **ndano   la-levambon-o...**
       return:ss sleep-1PL:PST-CONN

       'Having returned, we slept and...'

Ellipsis in the bridging clause can also affect grammatical morphemes. In Sunwar, the evidential marker can be omitted from a bridging clause (Schulze & Bieri 1973: 392). Whether it must be omitted in any non-main clause is unclear at this stage. In Paluai in (18b), the bridging clause does not repeat the aspect marker of the reference clause (namely *pe* 'perfective'), although there are no restrictions on aspectual marking in non-main clauses in Paluai (Schokkin 2013: 419).

(18) Paluai (Oceanic, Admiralties; Schokkin 2014: 116)

    a. <u>*Wurê-pe*</u>   <u>*suwen*</u>   <u>*suk*</u>
       1PL:EXCL-PFV move.down shore

       'We went down to the shore.'

    b. ***Wurê-suwen***   ***suk***   ***a***
       1PL:EXCL-move.down shore and

       'we went down to the shore and'

    c. *wurê-pe*   *pit*   *nêm*   *la*   *kel*
       1PL:EXCL-PFV jump be.finished go.to canoe

       'we boarded a canoe.'

Determining what portion of the reference clause can be repeated or omitted and whether there are functional differences between exact and non-exact repetitions remain open questions. It could be that the choice of verbatim versus partial repetition is constrained by language specific features. In Yurakaré, for example, the verb's arguments are rarely repeated in the bridging clause. This is a general tendency in the language, and not a specific feature of bridging constructions: topical arguments are not repeated (van Gijn 2014: 295–296).

3.1.3 Additions

Additions are instances where information present in the bridging clause is not present in the reference clause. So far, additions we have found are aspectual or lexical (added NPs). An example of lexical addition is given in Ma Manda in (19). The subject argument in the reference clause is expressed in the form of agreement (1PL) on the verb, but in the bridging clause, a full NP is introduced, referring to a different person–number value, namely 3PL.

(19) Ma Manda (Papua New Guinea; Pennington 2015)

    a. <u>*blaakam*</u> <u>*ta-waam-ang*</u>
       weed   do-PRS:1PL-HAB

       'we do the weeding.'

    b. ***taam-taam=pû blaakam ta-maa-kong-ka***
       female-PL=NOM weed   do-COMPL-throw-SS

       'The women doing all the weeding, and...'

An example of aspectual addition in the verb phrase is given in (20). The predicate in (20b) is modified in (20c) by the predicate *-v* 'say' which acts, in this construction, as a phasal predicate (Guérin 2011: 342).

(20)   Mavea (Oceanic, Vanautu; Guérin 2019 [this volume])

    a.   *i-oele,*   *ko-arvulesi i-lo-v̈a*
       3SG:IRR-oil 2SG-stir   3SG:IRR-IPFV-go
       'it [is becoming] oil, you keep stirring'

    b.   *ko-rong* <u>*sama-na*</u>   *mo-rororo.*
       2SG-hear froth-3SG:POSS 3SG-IDEO.noise
       '[until] you hear its froth sizzling.'

    c.   ***sama-na***   ***mo-v i-rororo***   *mal mo-noa*   *ne*
       froth-3SG:POSS 3SG-say 3SG-IDEO.noise DEM 3SG-cooked FOC
       '[when] its froth starts to sizzle, IT is cooked.'

Additions may clarify or refine information that is implicit in the reference clause, for instance by expressing an argument as a lexical noun phrase rather than as an agreement marker, or may offer a different aspectual perspective, but additions still express the same fundamental proposition found in the reference clause.

3.1.4 Substitution

Substitutions are replacements targeting elements in the verb phrase of the reference clause. First, we found instances of the substitution of only grammatical information. Consider the Ma Manda example in (19) above. The verbs are lexically identical in both clauses, but the reference clause is cast in the habitual aspect, whereas the bridging clause marks completion. Although habitual aspect is restricted to main clauses in Ma Manda, completive can be found in both clause types. Another case may be seen in Tsezic languages (Forker & Anker 2019 [this volume]): the finite or tensed verb form in the reference clause is replaced with a converb form. Finally, in White Hmong (Jarkey 2019 [this volume]) aspect systematically shifts between the reference clause and the bridging clause for rhetorical effect.

Second, substitution may target the lexical verb. Lexical substitution involves cases where the bridging verb is a synonym of the reference verb. This is shown in (21), where two different verbs 'tie with a knot' and 'bind' are used in the reference and bridging clauses respectively.

(21)   Nabak (Papua New Guinea; Fabian et al. 1998: 164)

    a.   *mam-be-mti*   <u>*za-nup*</u>
       CONT-put-MED:SS tie.with.a.knot-1PL:PRS
       '[we] put it [in place on the house] and tie it [down].'

b. ***Eli-mann***...
bind-MED:1PL:DS
'After we bind it...'

Similar facts are reported in Matsigenka-Spanish (Emlen 2019 [this volume]), Ma Manda (Pennington 2015) and Eibela in (22), where both verbs 'shave thin' and 'make flat' refer to the same event and describe two facets of the same procedure.

(22)　Eibela (Papua New Guinea; Aiton 2019 [this volume])

a. *[sɛ:li　ga:lɛ-mɛi]*_{final}
properly shave.thin-HYPOTH

'(You) should shave it properly'

b. ***[sɛli　ɛmɛlɛ-si]***_{medial}
properly make.flat-MED:PFV

'Flatten it properly (by shaving)..'

Although hyponymy and (partial) synonymy are not always easily distinguishable from one another, in a few languages, we find cases of hyponymy. The bridging clause contains a verb whose semantics is more general than that of the verb of the reference clause. This is reported in Siroi (van Kleef 1988: 151) and in Ono, shown in (23). The verb 'take' in the bridging clause in (23b) is a hypernym which refers to the more specific hyponym 'grab' in the reference clause in (23a).

(23)　Ono (Papua New Guinea; Phinnemore 1998: 122)

a. *eŋe　kiŋzaŋ.kaŋzaŋ wie　　ŋerep mararak-ko-i*
they suddenly　　get.up:ss girl　grab-3PL-?

'They suddenly grabbed the girl.'

b. ***ma-u　　paki***
take-3PL:DS after:DS

'After they took (her)...'

On the other hand, in White Hmong (Jarkey 2019 [this volume]) and in Timbe, reported in (24), the verb of the bridging clause is more specific in meaning than the verb of the reference clause (here, *climb > get to*). In Foster's (1981) words, (24) acts "as if it is a correction or a refinement of the final verb" of the previous clause.

(24)   Timbe (Papua New Guinea; Foster 1981: 42)

    a.   *hikakmâ emelâk* <u>*Bondâ*</u> <u>*meyeat.*</u>
       carrying already Bondâ they.got.to

       'and carrying (her child) they made it to Bondâ.'

    b.   **Bondâ gayeat**   *âmâ ga...*
       Bondâ   they.climbing.to   when climbing

       'When they had climbed to Bondâ they climbed to...'

Constructions with non-matching verbs in the reference and bridging clauses raise challenging questions about the limits of bridging constructions: if the predicates in the reference and bridging clause are not identical but are synonyms, should we still consider the constructions involving substitution as bridging constructions, albeit "atypical"? What if the predicates are not synonyms but show different facets or perspectives of the same event? Consider example (25) from Tsez:

(25)   Tsez (Nakh-Daghestanian; Forker & Anker 2019 [this volume])

    a.   *...<u>kid</u> <u>xan-däɣor</u>   <u>y-ik'i-n</u>*
       girl(II) khan-APUD.VERS II-go-PST.UW

       '...the girl went to the king.'

    b.   **elo-r**   **y-ay-nosi***...*
       there-LAT II-come-ANT.CVB

       'After she arrived there,...'

In this example, a verb of movement in the reference clause is replaced by another in the bridging clause (go > come) resulting in a different deictic orientation. Should these instances be considered less like bridging constructions and more like PARAPHRASES defined by Longacre (2007a: 382–383) as inexact repetition with a gain or loss of information? The boundary here is fuzzy, and it is not immediately obvious whether there is a clear and categorical distinction between bridging constructions with separate predicates and paraphrases. The answer, we believe, lies in the function of these types of constructions: by looking at both formal and functional features, we assume it is possible to distinguish bridging constructions from paraphrases and other forms of repetition. This rationale, however, requires further research (see also §5).

3.2 Summary linkage

At the extreme end of the substitution spectrum, we reach cases where the lexical verb of the reference clause, its argument, and accompanying adjuncts are replaced with a generic light verb that has no lexical relation to the verb of the reference clause. The relation between the reference and the bridging clause is nevertheless maintained because the verb of the bridging clause is understood to summarize or anaphorically refer to the preceding discourse unit.

Across languages, two major types of verbs are used to form the bridging clause of a summary linkage. First, a verb with generic meaning is used, such as *nu* in (26b).

(26) Jingulu (non-Pama-Nyungan, Australia; Pensalfini 2015)

    a. <u>*Marlarluka-rni*</u> <u>*ganya-marri*</u> <u>*jad.bili.*</u>
       old.man-ᴇʀɢ   sing-ʀᴇᴍ.ᴘsᴛ block

       'Old people sang them to block them.'

    b. ***Marlarluka wurru-nu,...***
       old.man   3ᴘʟ-ᴀᴜx:ᴘsᴛ

       'The old people did that,...'

This generic or light verb is often accompanied by a deictic element, as in Yurakaré (van Gijn 2014: 295) and Tariana with the manner deictic *kay* 'thus' in (27c) (see also the paragraph markers of Loos 1963: 701).

(27) Tariana (Arawak, northwest Amazonia; Aikhenvald 2003: 578)

    a. 'I went early, there I fished for aracú fish and went round,'

    b. <u>*lape-pe-se*</u>   <u>*nu-emhani-na*</u>
       muddy.lake-ᴘʟ-ʟᴏᴄ 1sɢ-walk-ʀᴇᴍ.ᴘsᴛ:ᴠɪs

       'I went round in a muddy lake.'

    c. ***kay nu-ni***
       thus 1sɢ-do

       'Having done this,'

    d. *dekina*   *nu-dia*   *nu-mara nu-nu-na-pita*
       afternoon 1sɢ-return 1sɢ-drift 1sɢ-come-ʀᴇᴍ.ᴘsᴛ:ᴠɪs-ᴀɢᴀɪɴ

       'I drifted downstream again in the afternoon'

The second strategy to form a summary linkage is to use a pro-verb, as in Aguaruna in (28b), or a demonstrative verb expressing manner (see Guérin 2015),

such as *kwamun* 'do like that' in (29b). In these cases, the verb itself has deictic or anaphoric reference as part of its meaning.

(28) Aguaruna (Jivaroan, Peru; Overall 2017: 500)

    a. <u>*mi=na*</u>   <u>*apa-hu*</u>   <u>*maŋkahatu-a-u*</u>   <u>*a-yi*</u>

       1SG=ACC father-POSS:1SG kill:1PL:OBJ-PFV-NMLZ COP-REM.PST:3:DECL

       'my father killed a person'

    b. **nu-ni-ka-mataĩ**

       ANA-VBLZ:INTR-PFV:SEQ-1/3:DS

       '(he) having done that' or 'and because of that'

    c. *auhu-tsu-u=ka*   *papi=na=ka*   *puhu-ya-ha-i*

       study-NEG-NMLZ=TOP book=ACC=TOP live-REM.PST-1SG-DECL

       'I was unable to study'

(29) Yongkom (Papua New Guinea; Christensen 2013: 66)

    a. <u>*Anon*</u> <u>*ok*</u>   <u>*an-imam-ɛɛn.*</u>

       dog   water eat-HAB-3:M

       'The dog was drinking water.'

    b. **Kwamun-ɛ** *yikabom bikn-ɛ...*

       do.like-SM lizard   hid-SM

       'He did that [and then] the lizard hid...'

Eibela uses a third possibility: the durative auxiliary *hɛna:* which forms a bridging clause, as shown in (30c).

(30)   a. *[ɛimɛ oga*   *ɛ*   *gɛ-mɛna=ta]*_{medial} *[holo*   *anɛ-obo]*_{final}

       already pandanus seedling plant-FUT=ATEL DEM:UP go:PST-INFER

       'He had already gone up there to plant pandanus seeds.'

    b. **[[ogu-bi=ja:]**_{topic} *nɛ*   *nɛ-ɸɛni*   *ɛna ja*   *di]*_{final}

       do.thus-DS=TOP   1:SG 1:SG-alone still here PFV

       'He did that, I was still alone here.'

    c. **[[hɛna:-si=ja:]**_{topic} *si-ja:]*_{final}

       DUR-MED:PFV=TOP move.around-PST

       'That being the case, I was wandering around here.'

So far, we found three languages with more than one summary linkage. The language Aguaruna stands out with eight different demonstrative verbs, two of them commonly used in bridging constructions. The choice of one over the other is determined by the discourse prominence of the participants and the (in)transitivity of the event (Overall 2017: 257, 499, 589). Cavineña forms two types of summary linkage with two different demonstrative predicates, namely *ju-* 'be' and *a-* 'affect' in conjunction with the anaphoric manner demonstrative *jadya* 'thus'. The choice of predicate depends on the transitivity of the event recapitulated: intransitive with *ju-* or transitive with *a-* (Guillaume 2011: 128). Eibela is noteworthy with three different types of summary linkage formed with three different predicates: a demonstrative verb *wogu* 'do thus', a light verb *ɛ* 'do', and a durative auxiliary *hɛna*. These three anaphoric options have clear semantic and functional differences. The durative auxiliary *hɛna* summarizes a reference clause and adds the aspectual meaning of duration to the proposition: the event or state described in the reference clause continues for an extended time period. The light verb *ɛ* 'do' differs in that the reference of the anaphor is not always limited to the event described in the reference clause, and may extend to summarizing an entire preceding series of events. In contrast, the demonstrative verb *wogu* 'do thus' summarizes and expresses only the same proposition as the reference clause and may add morphological indicators of sequentiality or causation (see Aiton 2019 [this volume]).

3.3 Mixed linkage

A mixed linkage is a type of bridging construction which combines the lexical verb of a reference clause (as in recapitulative linkage) with an anaphoric element (as in summary linkage). Mixed linkage is found in Cavineña, in (31), described as containing the verb of the reference clause in a non-finite form, the particle *jadya* 'thus' and an auxiliary (light verb) carrying the dependency marker, in that order (Guillaume 2011: 129).

(31) Cavineña (Tacanan, Bolivia; Guillaume 2011: 129)

    a. <u>*Ji-da=dya=di*</u>   <u>*ka-reke-ti-kware*</u>
         good-ADJ:SUF=FOC=EMPH REFL-cross-REFL-REM.PST

         'I crossed well.'

    b. **Ka-reke-ti**   **jadya ju-atsu** *tapeke=piji*   *ara-kware.*
         REFL-cross-REFL thus   be-SS   trip.food=DIM   eat-REM.PST

         'After crossing, I ate the food.'

The other languages where the lexical verb from the reference clause and a light verb are combined are Ma Manda in (32c) and Kokota in (33b).

(32)　Ma Manda (Papua New Guinea; Pennington 2015)

　　a.　'The day before yesterday I wanted to go to Lae with Gaamiyong,'

　　b.　*ku-gûmot*
　　　　go-REM.PST:1DU
　　　　'(so) we went.'

　　c.　**ku-gûmot　　ta-ng-alû**
　　　　go-REM.PST:1DU do-DS-2/3
　　　　'We went but'

　　d.　*na-taam=pû　　kadep=mang kam　nûnû-gûng...*
　　　　male-female=NOM road=LOC　down 1PL:OBJ:tell-REM.PST:2/3PL
　　　　'the people down on the road told us...'

(33)　Kokota (Oceanic, Solomon Islands; Palmer 2009: 398)

　　a.　*n-e　　toga　ağe=u　　maneri,*
　　　　REAL-3SG arrive go=CONT they
　　　　'They arrived.'

　　b.　**toga　ğ-e=u**　　　　*tana nogoi lao hure=i　　hinage=na...*
　　　　arrive NT-3SBJ=be.thus then VOC　go carry=3SG.OBJ boat=that
　　　　'They arrived and then went [and] carried that boat...'

In White Hmong, on the other hand, mixed linkage combines the verb of the reference clause and the anaphoric adverb *li* 'thus, like'. Other anaphoric elements can be added. In (34), the speech verb *hais* is repeated in the bridging clause, and the anaphoric adverb *li*, the anaphoric demonstrative *ntawd* 'that, there' and the particle *tag* 'finish' are added (see Jarkey 2019 [this volume]).

(34)　White Hmong (Hmong-Mien, Laos; Jarkey 2019 [this volume])

　　a.　*Ces　　Luj Tub thiaj.li　hais tias　"Yog tsaug~tsaug.zog　thiab*
　　　　and.then Lu Tu　so.then say　COMP COP　REDUP~be.sleepy and
　　　　nqhis~nqhis　nqaij mas yuav.tau rov　　mus..."
　　　　REDUP~crave meat TOP must　　return go
　　　　'And so then Lu Tu said, "If you are very sleepy and are really craving meat, (I) must go back"...'

b. ***Hais li   ntawd tag***   *ces...*
say   like that   finish and.then
'After saying that, then...'

The status of these mixed bridging constructions remains to be studied in more detail. Evidence that the bridging clause in a mixed linkage is a single clause (and not a sequence of two clauses) comes from clause boundary markers: switch-reference in Cavineña and Ma Manda, agreement marking in Kokota, or the coordination *ces* in White Hmong. Other cases are not so clear. Consider Aguaruna's summary linkage with the anaphoric verb *nu-ni-* 'ANA-VBLZ.INTR-' as the bridging element in (28b) above. In Aguaruna there is also the option of using this anaphoric verb followed by the lexical verb of the reference clause. Whether this construction, shown in (35b), is a mixed linkage is unclear, given that both the anaphoric verb and the lexical verbs are marked with switch-reference.

(35)   Aguaruna (Jivaroan, Peru; Overall 2017: 617)

a.   *...mau-tayamɨ*
kill-NORM
'...we kill it.'

b.   ***nu-ni-ka***   ***ma-a***
ANA-VBLZ.INTR-PFV:SEQ:1PL:SS kill-PFV:SEQ:1PL:SS
'having done that, having killed it'

c.   'if we take it away, we easily take it away.'

Note also that in Ma Manda, the switch-reference agreement on the light verb *ta-* 'do' does not match the subject of the previous verb, thereby suggesting that the light verb could have grammaticalized into a conjunction (see further discussion in §6). This light verb is also typically used in summary linkage, giving us indirect access to the possible historical development of bridging elements into clause linking devices.

4 Discourse functions

Bridging constructions are considered a "discourse strategy rather than a phenomenon of the sentence grammar" (de Vries 2005: 364). They operate beyond the level of the independent clause to serve specific discourse functions, where discourse can be understood both in its structural sense, meaning "grammar above the clause" (i.e., the structural organization of units larger than a main

clause), and in its functionalist sense, referring to "language in use", i.e., the general cultural knowledge that is required to (de)code a text (Cameron 2001: 10–13). In the following subsections, we discuss three major discourse features associated with bridging constructions, which are relevant to both definitions of discourse. First, we consider some discourse characteristics that are prone to trigger the use of bridging constructions: the text genre, the medium of communication, and the speaker are discussed in §4.1. The cohesive functions of these constructions are then presented in §4.2. Last, the structuring role that bridging constructions play in discourse is detailed in §4.3.

4.1 Conducive factors

Several factors are conducive to the presence or absence of bridging constructions in discourse. In this section, we concentrate on the text genre, the medium of communication, and the speaker. In Longacre's (1983) discourse typology, four genres of monologue discourse are differentiated: procedural (e.g., how-to-do-it), behavioural (e.g., eulogy, hortatory), narrative (e.g., prophecies, myth), and expository discourse (e.g., scientific paper). These types of monologue discourse correlate with distinctive grammatical markers across languages. In English, for example, narrative discourse uses historical present or past tense, and participants are encoded with 1st or 3rd singular pronouns; while procedural discourse uses imperative, non-focused agent, and 1st plural pronouns (Longacre 1983: 3–17). Of these four genres, both Longacre (1983: 9) and de Vries (2005: 365) acknowledge that bridging constructions are one of the distinctive features of narrative and procedural texts. This may be a reflection of a bias towards this type of data in corpora, since most descriptive grammars often concentrate on these two types of monologue discourse, and not so much a real effect of genre on the distribution of the phenomenon. In this volume, we found bridging constructions to be used in a rather restricted range of texts. In Matsigenka (Emlen 2019 [this volume]) bridging constructions are a prominent feature of myth narration but they are found in no other types of performative oration. Similarly, in Nakh-Daghestanian languages (Forker & Anker 2019 [this volume]), bridging constructions are restricted to traditional fictional narratives (and are not found in historical or autobiographical narratives). In Logoori, bridging constructions are used in some procedural text, but not in other text genres (Sarvasy 2019 [this volume]), while in Greek (Alvanoudi 2019 [this volume]), clause repetition is found to play a major cohesive role in conversations.

In addition, de Vries (2005: 378;2006: 817) indicates that a key function of bridging linkage is to give the speaker an opportunity to plan the subsequent narrative

episode, and to give the listener an opportunity to process the events of previous discourse unit. These processing pressures are largely absent from written language, and we would therefore expect bridging constructions to be absent or far less frequent in a written medium, as hinted in Matsigenka and Tsezic languages (see Emlen 2019 and Forker & Anker 2019 [this volume]), a hypothesis that remains to be tested.

We do not have frequency counts of bridging clauses for each genre in each language we investigated, and a quantitative analysis is beyond the scope of this volume. Impressionistically, it seems that in Ma Manda, bridging clauses appear preceding almost every single main clause in a narrative or a procedural text (Pennington 2015), while in Manambu (Aikhenvald 2008: 544–545), the most common way to connect main clauses is with the connectives *ata* 'then' and *atawata:y* 'in summary', and bridging constructions are frequent but not pervasive. More importantly, because bridging constructions can be used as a stylistic device, the rate of their use varies with individual preferences, as noted in Logoori, White Hmong and Mavea (see the chapters by Sarvasy, Jarkey, and by Guérin, in this volume. See also de Vries 2005: 375). The identity of the narrator (Longacre 1983: 17–20), in terms of age, sex, social position, etc., does also affect his/her usage of bridging constructions and these variables should thus be taken into consideration before claims about the frequency of occurrence of bridging constructions in a particular text genre or medium can be made meaningful.

4.2 Adding cohesion

Cohesion refers to "the relation of meaning that exists within a text. [...] Cohesion occurs where the interpretation of some element in the discourse is dependent on that of another" (Halliday & Hasan 1976: 4). Features such as cross-reference, substitution, ellipsis, and semantic relations between propositions are all different instances of cohesion. One of the cohesive relations that bridging constructions instantiate in discourse is cross-reference, as in (36). Bridging constructions help track participants in languages with switch reference marking (de Vries 2005: 373–378). As shown in (36a), reference-tracking information is not encoded on the finite predicate of the reference clause, but on the bridging clause in (36b). This marking indicates whether the subject of the previous and following sentences is the same or different, and at the same time, it types the clause as dependent.

(36) Aguaruna (Jivaroan, Peru; Overall 2017: 499–500)

    a. *yunuma-tu-ka-u-i*
       approach-APPL-PFV-NMLZ-COP:3:DECL
       '(The person) approached (the boa).'

    b. **nu-ni-ka-mataĩ**
       ANA-VBLZ:INTR-PFV:SEQ-1/3:DS
       'When he (the person) had done so'

    c. *nu-na   achi-ka-u-i   aɨntsu-na paŋkĩ*
       ANA-ACC grab-PFV-NMLZ-COP:3:DECL person-ACC boa
       'the boa grabbed that person.'

Thematic continuity is another cohesive technique that bridging constructions enable. As the story progresses, bridging construction highlight important turning points, or new events on the main event line, and the (sequential) relationship between these events. This function is described in this volume in Eibela, Mavea and White Hmong. In addition, bridging constructions in Mavea and White Hmong can be used to bring the narrative back to the main event line after a digression. In Greek conversations, clause repetition could be said to have a similar role when a speaker repeats a question to pursue a response after being ignored.

Bridging constructions also mark a semantic relation between discourse segments, typically, expressing sequentiality, as shown in (17). The event in (17b) (*la* 'sleep') is temporally subsequent to the event in the reference clause in (17a) (*ndave* 'return'). Bridging constructions expressing a temporal or sequential relation between parts of discourse are found in Dani (Bromley 2003: 314), Murui (Wojtylak 2017: 516), and several languages in this volume (see Table 1). Other semantic relations are concession and consequence in Eibela (Aiton 2019 [this volume]) and in Aguaruna (Overall 2017: 499–502).

4.3 Structuring discourse

What does the linkage link? In our current schema given in (2), we argue that bridging constructions link DISCOURSE UNITS, a notion left intentionally vague as one of the purposes of this volume was to refine what such a discourse segment could be. In chaining languages of Papua New Guinea, de Vries (2005: 363) argues that the discourse segments linked by bridging constructions are clause chains. But more generally, from a discourse perspective, we agree with Thompson et al. (2007: 272–274) that bridging constructions link PARAGRAPHS.

Following Longacre (1983: 14–17), we analyse in this volume monologue discourse which distinguishes two organizational positions: the EVENT LINE which carries the main events forward, and the SUPPORTIVE LINE which adds emotive or depictive information. The event line generally follows the macro-structure or schema: exposition (introduction, orientation), development (inciting moment, complication action), developing conflict, climax, denouement (result, resolution), conclusion (closure, coda).[5] Each of these macro-structural components carries the main story forward through a series of episodes, which are expounded in paragraphs.

We follow Longacre (2007b: 116) who claims that paragraphs are part of any language's discourse patterns as they are the building blocks of discourse. Longacre (1983: 295) goes on to argue that a paragraph is "the developmental unit of discourse". It is the typical unit within which a discourse topic is elaborated (an argument in hortatory discourse, an explanation in expository discourse, or an episode in narrative discourse). As a discourse unit, the paragraph "maintains a uniform orientation" (Hinds 2012: 136) in terms of its spatial, temporal, thematic and participant continuity (Givón 1983: 7–10; Longacre 2007b: 115–120). The paragraph is also a structural unit, showing closure: the onset and coda are overtly marked by particles, connectives, or intonational patterns (van Dijk 1977: Chap. 5; Seifart 2010: 895–896). We argue, in line with Longacre (1983: 9), that bridging constructions are one of the possible patterns that formally outlines a paragraph boundary. This is shown in Korowai, Eibela, White Hmong and Nakh-Daghestanian languages in this volume. However, in some cases, it is the lack of bridging constructions that is the boundary marker (Farr 1999: 337).

For example, in procedural texts, the narrative line is pared down to the main activities (i.e., the procedure) essential to achieving the objective of the text. Each new event is a new step in the procedure, and these steps are seldom explained or expounded into episodes. In these text genres then, a paragraph is reduced to a single clause. Consider (37). From a discourse perspective, the bridging clause in (37b) signals the end of an event, a step in the procedure and the beginning of a new one. From a structural perspective, the bridging clause signals a new paragraph.

(37) Jingulu (non-Pama-Nyungan, Australia; Pensalfini 2015)

  a. *kijurlurlu-warndi* *nangka-marri* *marlarluka-rni.*
      stone-INS   chop-REM.PST old.men-ERG

      'Olden folk would crush it with a stone.'

---

[5]See Chafe 2001: 277; Johnstone 2001: 637–639; Longacre 1983: 21–24, 38–41; see also Gleason Jr 1968; Labov & Waletzky 1967/2007; and van Dijk 1977.

b. ***kijurlurlu-warndi nangka-marrimi*** *dika ajuwa-marriyimi.*
    stone-INS   chop-REM.PST   fat   throw-REM.PST
    'Once crushed with a stone they'd mix fat in with it.'

In narratives, bridging constructions are often associated with the main event line. They maintain thematic continuity by helping the story unfold. For example, in Iatmul, Jendraschek (2009: 1324) argues that bridging constructions "help to carry the plot forward by providing transitions between linked events", while in Siroi, "by just glancing over the [bridging clauses] of a story you can usually get an accurate impression of the story line" (van Kleef 1988: 153). However, de Vries (2005; 2006) has shown that bridging constructions can also break the event line to add supporting material (e.g., give background information) or to create special effects, such as setting the stage for a climactic or unexpected peak event in the story (de Vries 2005: 373). In Siroi, van Kleef (1988: 151–152) notes that bridging constructions have different discursive functions depending on their placement in discourse: at the beginning of a paragraph, they highlight discontinuity (a change in time, location, or the addition of a new participant), while within a paragraph, which is the most common position in Siroi (as in Cavineña, Guillaume 2011: 123), bridging constructions highlight continuity. The correlation position/meaning also holds in Kasu, another Papuan language, with a notable addition: the type of bridging construction used (summary or recapitulative) also plays a role. In this language, recapitulative linkage occurs inside a paragraph to indicate continuity whereas summary linkage is found across paragraphs to mark the beginning of a new thematic paragraph (Logan 2008: 23–30).

Interestingly, the position of bridging constructions within a text as a whole is no less significant. Van Kleef indicates (1988: 152) that in Siroi bridging constructions never occur around the climax of the story, although they do so in Angave, another Papuan language as well as in Mavea (Guérin 2019 [this volume]).

The discourse functions of the bridging constructions studied in this volume are summarized in Table 1. Empty cells indicate lack of data. Although bridging constructions are in many languages a conspicuous feature of discourse, much light still needs to be shed on the nature and length of the discourse units that these constructions link, their placement in discourse, and their types and functions for each genre in different languages.

We briefly mention here two other constructions with similar discourse functions: nominal repetition in Logoori (Sarvasy 2019 [this volume]) and the connector pronoun in Bora (Seifart 2010). In Logoori, an AVO language, the O of a final clause can be repeated as the S the following clause. If a bridging construction marks event cohesion and continuity, then nominal repetition can be

Table 1: Reported discourse functions of bridging constructions in this volume

	Stylistic	Sequential	Cohesion	Structuring	Emphasis
Eibela		✓		✓	
Greek			✓		✓
Korowai			✓	✓	
Logoori	✓	✓	✓		
Matsigenka	✓	✓		✓	
Mavea	✓	✓		✓	✓
Nakh-Daghestanian	✓			✓	
White Hmong		✓	✓	✓	✓

said to mark referential cohesion and topic continuity. This feature is, however, just as uncommon as bridging clauses in Logoori. In Bora, a language of Peru, paragraphs are almost always introduced by a connector pronoun, which Seifart argues (2010: 900) is the functional equivalent to bridging constructions in Papuan languages. Similarities include the fixed paragraph-initial position of the bridging clause and the connector pronoun; the connector pronoun can assume different forms reminiscent of summary and recapitulative linkages (although no difference in meaning or functions is noted for the connector); and, like bridging constructions, the connector pronoun can indicate causal, adversative, or temporal semantic relations (Seifart 2010: 904–909).

5 Other types of repetition

REPETITION is pervasive in language (Brown 2000) and may serve various functions, depending on the language. Clause repetition can add aspectual meaning, denoting habitual or iterative events in Tuvalu (Besnier 2014: 487) or representing the continuation of a state or activity in Nahavaq (Dimock 2009: 259–260), or it can mark emphasis in Sunwar (Schulze & Bieri 1973: 390). In each language, these functions are distinct from those of bridging constructions, which operate on the level of discourse, and express event sequencing or reference tracking, as discussed in §4. However, the boundary between bridging constructions and clausal repetition may be obscured when repetition is verbatim and pared down to the predicate. This is especially true of some Oceanic languages of Vanuatu, where bridging clauses are morphologically identical to main clauses. Consider

data from Nahavaq: clausal repetition, in (38c), and the bridging clause, bolded in (39b), are morphologically main clauses, and in both cases, there is verbatim repetition of a previous clause. Thus, there is no grammatical marker to distinguish a bridging clause from clausal repetition.

(38)   Nahavaq (Oceanic, Vanuatu; Dimock 2009: 261)

    a.   *Ru-raq   ne-hew   gcen   wut ru-q-vwul   ni-momoq*
        3DU-work N.PREF-garden because COMP 3DU-IRR-buy N.PREF-woman

        'And they made a garden so they could buy him a wife,'

    b.   *sut   migce-n qin, ro-koh, en   i-yar   en.*
        NON.SPE to-3SG   3SG 3PL-be and 3SG:REAL-finish and

        'and they stayed.'

    c.   *Ro-koh mbey, ro-koh mbey, ro-koh mbey,*
        3PL-be to   3PL-be to   3PL-be to

        'They stayed on and on,'

    d.   *en ru-pir   ni-mbwuwes...*
        and 3DU-look.after N.PREF-pig

        'and they raised pigs...'

(39)   a.   *...en i-suq   qin*
        and 3SG:REAL-stab 3SG

        '...and [he] punctured it.'

    b.   ***i-suq**   **qin**, i-min.*
        3SG:REAL-stab 3SG 3SG:REAL-drink

        'He punctured it, he drank.' Interpreted as: '[...] and punctured it. **And after** he had punctured it, he drank.' (Dimock 2009: 260)

We do, however, expect to find a prosodic distinction, as has been described for Sunwar (Schulze & Bieri 1973: 389–391). In Sunwar, the reference clause has a falling, sentence-final intonation. It is followed by a pause and the bridging clause has level intonation (see also discussion in §2.3). Repetitions in Sunwar have, on the other hand, level or rising intonation on each clause repeated (see also the chapter on Mavea in this volume). Further formal differences may be present. Bridging constructions are typically composed of a single bridging clause, as we saw in (9), whereas repetitions are more numerous. In Tuvaluan, the verb phrase can be repeated up to eight times, "the number of times the verb is repeated is iconic of the degree of habituality" (Besnier 2014: 487).

Teasing apart clause repetition from bridging constructions is not always problematic. In Murui, the distinction is unequivocally marked in the morphology: the repeated clause is a main clause in (40c), whereas a bridging clause, as in (41c), is a nominalized clause (Wojtylak 2017: 518), thus a non-main clause.

(40) Murui (Witotoan, Columbia; Wojtylak 2017: 514)

    a. *bai-e*   *ii-ñiaɨ*   *kobeda ui-t-e*
        this-CLF:GENL man-COLL shotgun take-LK-3
        'The men took weapons.'

    b. *naɨ-do*   *do-ri-ta-kana*   *jai-d-e*
        path-INS shoot-DUR-CAUS-OVLP go-LK-3
        'Shooting along the way, they walked the path.'

    c. *naɨ-do*   *do-ri-ta-kana*   *jai-d-e*
        path-INS shoot-DUR-CAUS-OVLP go-LK-3
        'Shooting along the way, they walked (and walked).'

    d. *naɨ-do bai-e*   *joma-nɨaɨ*   *do-ri-ta-kana*
        way-INS that-CLF:GENL monkey-COLL shoot-DUR-CAUS-OVLP
        ui-t-e
        bring-LK-3
        'Along the path shooting at monkeys, they brought (them)'

(41) a. 'And, after pounding (it), after mixing (it),'

    b. *kome jai*   *nai-e*   <u>*du-t-e*</u>   *jmm...*
        person already ANA.SP-CLF:GENL chew.coca-LK-3 INTERJ
        'a person already chews it.'

    c. ***du-a-no-na***   *kome kome-kɨ*   *faka-d-e*
        chew.coca-E.NMLZ-SEQ-N.S/A.TOP person heart-CLF:RND think-LK-3
        jmm
        INTERJ
        'After chewing (it), a person meditates (lit. thinks).'

Arguments in Murui are also generally omitted from bridging clauses but not from repetition. The two constructions' functions in discourse do not overlap: repetitions have aspectual overtones, while bridging clauses mark sequentiality (Wojtylak 2017: 513–522). Thus, although there may be a formal overlap between repetition and bridging constructions, by looking at both formal and functional features we can distinguish the two.

6 Summary and directions for future research

Bridging constructions represent an interface between sentence and discourse. As sentence-level structures, they display the morphosyntactic categories of a language's clauses, whether final or non-final. As part of a language's discourse patterns, bridging constructions add coherence and cohesion by demarcating discourse units such as paragraphs and/or by highlighting semantic relationships between or within these units. For example, aspectual differences in a reference clause and bridging clause serve to communicate the relative temporal relationships of disparate events in Eibela (Aiton 2019 [this volume]) and White Hmong (Jarkey 2019 [this volume]). Bridging constructions also perform specific pragmatic functions. For example, categories such as topic and focus attached to a bridging clause in Eibela (Aiton 2019 [this volume]) and Korowai (de Vries 2019 [this volume]) convey the pragmatic relevance of the bridging clause, and by extension of the previous discourse unit.

The languages examined in this volume all use at least one type of bridging construction in texts, except Greek, which replaces bridging constructions in conversations with clause repetition, to achieve overall the same effect (i.e., discourse cohesion). The majority of languages in our dataset have more than one type of bridging constructions (e.g., Cavineña and Ma Manda use recapitulative and mixed linkages). Few languages have more than one type of summary linkage (e.g., Aguaruna, Cavineña, Eibela).

What is revealing here (as alluded in de Vries 2005 for Papuan languages) is that languages which exploit several bridging techniques also ascribe specific functions to each form of linkage. In particular, if a language has both recapitulative and summary linkage, it seems to us that recapitulative linkage is the default construction and summary linkage the marked construction, for two main reasons. First, because of its form, recapitulative linkage refers specifically to an identifiable chunk of text. In Korowai (de Vries 2019 [this volume]), recapitulative linkage is a recurrent textual construction feature. It is its absence or the use of a different type of linkage that signals discontinuity in the narrative flow. On the other hand, summary linkage uses a generic verb, thus the chunk of text that this linkage refers to is much more difficult to pinpoint. In Korowai (de Vries 2019 [this volume]), summary linkage may refer back to the final clause of the previous clause chain, to the previous clause chain, or to the preceding chain of clause chains. In a similar vein in Eibela (Aiton 2019 [this volume]), a summary linkage found in the penultimate line of a narrative can summarize the whole narrative and not just the previous clause. It is up to the addressee to infer from the context which information the speaker refers to. The second piece of evidence

is that summary linkage seems to be associated with direct speech and verbs of saying. In Cavineña, Guillaume (2011: 128–131) argues that summary linkage is most exclusively "restricted to the recapitulation of quotation events […] direct speech, thoughts, or expression of feeling", a finding that is echoed in Tsezic languages (Forker & Anker 2019 [this volume]) and in White Hmong (Jarkey 2019 [this volume]). Jarkey notes that summary linkage is more likely associated with unplanned personal narrative and conversation than with literary style and third person narration. However, Guillaume also admits that he cannot pinpoint clear contrasts between mixed linkage and summary linkage (2011: 130). At the time van Kleef wrote her article, she had not yet found what separated the use of recapitulative and summary linkages in van Kleef (1988: 155). Thus, research in this area is still crucially needed. It is likely that exploring the type of events and generic verbs used in summary linkage will yield insightful results.

Further questions that are beyond our reach at this stage but need to be addressed are listed here. First and foremost, as we prepared this volume, we were often asked to pinpoint the typological characteristics that bridging constructions correlate with (e.g., SOV syntax, NP density, switch-reference, demonstrative verbs, etc.). For example, Guillaume (2011: 113) notes that bridging constructions are prevalent in polysynthetic languages or languages favouring null arguments. They have often been associated with chaining languages exhibiting switch reference in general (after Stirling 1993) and Papuan languages in particular, following de Vries 2005. Seifart (2010) links bridging constructions to "verby languages" and pronoun connector to "nouny languages". However, none of these features seem to be sufficient or necessary. Logoori, an SVO Bantu language with clause chains barely uses bridging construction in discourse, as shown by Sarvasy (2019 [this volume]). In our opinion, defining the typological features that correlate with bridging constructions is only relevant if bridging constructions are an integral part of the grammar. We assume that to be part of a language's grammar, a bridging construction must be a conventionalized pattern with a productive formal representation paired with a consistent and predictable semantic contribution. It could be that bridging constructions are part of the grammar of some languages, but this subset of languages still needs to be established. Siroi and Aguaruna are, in our view, good candidates for this subset as virtually every clause chain in these languages starts with a bridging clause promoting discourse cohesion (van Kleef 1988: 152, Overall 2017: 589). But in other languages we have studied, bridging constructions lie at the interface between discourse and syntax. They are restricted to certain genres, are not pervasive and not reliably or consistently employed. They are considered a stylistic feature, used more by certain speakers than others in the same language com-

munity, and are in no case mandatory (as for example in Mavea or Logoori). A caveat is that these constructions could be unreported for a particular language because they only occur in a special genre that has not been documented in that language (yet); because the "right" speakers have not been recorded (as described by Grenoble 2012); or because they are not sufficiently distinctive to be recognized as a conventionalized construction.

The historical development of bridging constructions into grammatical markers seems to us a promising line of research. Our thoughts on this topic stem from a few descriptive studies noting that bridging clauses function as clausal coordinators (Bromley 2003: 314; Jendraschek 2009: 1327). In Yongkom, the demonstrative verb *kwan* 'do like that' is extensively used in bridging constructions. In medial form it is lexicalized as the adverbial 'likewise, also' but with additional causative morphology, it has grammaticalized as the connective 'therefore' (Christensen 2013: 29). Based on these remarks, it is conceivable that the bridging component of the construction becomes a conventionalized means of transitioning between discourse episodes, which ultimately fully grammaticalizes into a coordination marker, as discussed for Ma Manda in (32c) and possibly in Bora (Seifart 2010: 909, 913) and Kombai (de Vries 2005: 376–377). Interestingly, Alvanoudi (2019) further alludes to the possibility that bridging constructions may result from the grammaticalization of repeated discourse practices that serve to provide discourse cohesion.

The diffusion of bridging constructions through language contact is a research area for which we do not have enough data. The phenomenon is reported and discussed in the Arawak language studied in the volume, Matsigenka (Emlen 2019 [this volume]), corroborating the fact that bridging constructions as discourse devices are not immune to borrowing (Aikhenvald 2006: 15, 17).

Last, de Vries (2005: 378; 2006: 817) also mentions "ease of processing" as an additional function of bridging constructions: the bridging construction allows the speaker to hold the floor long enough to process their next narrative move and gather his/her thoughts too, and it gives listeners time to process the information of the paragraph it follows. Indirect evidence could possibly be found in Mavea (Guérin 2019 [this volume]), but overall, experimental data to confirm these claims are at present lacking.

Appendix

As more research needs to be devoted to the topic, we have established a preliminary list of questions that researchers interested in describing bridging constructions should consider.

1. Content of bridging clause

   a) What is repeated? The lexical verb of the reference clause? Verbal complex? Any arguments?

   b) What is omitted? Are the omissions dictated by the grammar (e.g., lack of morphology associated with non-main clauses) or optional?

   c) Is there a dedicated verb instead of a repetition? If so, what kind of verb can be used?
   If a generic verb, what are its properties?

   d) Is there no verb at all referring to the reference clause but instead a pronoun? How does this linkage fit in with anaphora in general?

   e) Any special marking on the bridging element?
   E.g., topic marker, case marking, focus, etc. Do bridging clauses occur with preceding discourse particle (e.g., *now*, *then*, *so*)?

2. Syntactic status

   a) Is the bridging clause a non-main clause?
   Are the tense and/or aspectual markings the same as the reference clause? Any restrictions in tense/aspect/modality, polarity, or person marking?

   b) What is the status of the bridging clause? E.g., is it subordinated? Juxtaposed? Coordinated? Is the bridging clause a special clause type?

3. Position

   a) Is the bridging clause in initial position? Or in what Longacre (2007a) calls the "sentence margin".

   b) Is the bridging clause placed immediately after the reference clause?

   c) What do bridging clauses link? Clauses? Paragraphs?
   How often do they occur in a text? Where do they occur in a text? Where do they not occur? Are bridging constructions obligatory? Optional? If optional, what other strategy, if any, is used instead?

4. Intonation

   a) Is there a break/pause between the reference and the bridging clauses?

   b) What is the intonation pattern of the bridging clause? Any other particular intonation pattern?

5. Semantics

   a) Does the bridging clause mark any semantic relation to its controlling clause? Repetition; simultanity, describing concomitant activities; sequentiality, expressing a state of affair in addition to another, etc.

6. Discourse function

   a) Do bridging constructions:

      - Connect two unrelated sections, thus, carry forward the event line: a new topic is introduced after the bridging clause (topic-shifting)?
      - Provide textual boundary (event sequencing)?
      - Provide lexical cohesion through repetition or summary?
      - Act as participant-tracking devices, especially in languages with switch reference marking?

   b) If the language only has one bridging construction, does the linkage fulfil a single semantic function? A single discourse function? Or more than one functions?

   c) If the language has several types of bridging constructions, which linkage fulfils which semantic function? Which discourse function?

7. Cohesive strategies

   a) How do bridging constructions compare or contrast with other linking strategies? E.g., subordination, coordination

   b) How similar/different are bridging constructions from repetitions? From paraphrase? In terms of frequency, function, position, obligatoriness, etc.

8. Text genres

   a) Do bridging constructions appear in different text genres? Conversation, procedural texts, narratives, etc.

   b) For languages with different types of bridging constructions, does the same type of bridging construction appear across text genres? Or are there different types of bridging constructions associated with different texts?

9. Historical and areal questions

   a) Is the bridging clause reduced (and grammaticalized) to the point where it becomes a discourse particle, subordinator, or coordinator? This could be especially relevant for summary linkage, where the bridging element contains a generic verb.

   b) In contact situations, is there any evidence that bridging constructions could be areally diffused?

Abbreviations

:	portmanteau	COP	copula
-	separates root and suffix	DECL	declarative
=	separates root and clitic	DEM	demonstrative
1	first person	DIM	diminutive
2	second person	DS	different subject
3	third person	DU	dual
1/3:DS	different subject, from third person to first person	DUR	durative
		EMPH	emphatic
2/3	second or third person	ERG	ergative
I-V	gender	EX	exclamative
ACC	accusative	EXCL	exclusive
ADJ.SUF	adjective suffix	FOC	focus
AGAIN	again	FUT	future
ALL	allative	GENL	general
ANA	anaphoric pronoun	HAB	habitual
ANT.CVB	anterior converb	HYPOTH	hypothetical
APPL	applicative	IDEO	ideophone
APUD	apudessive case	IMP	imperative
ASSOC	associative	INCL	inclusive
ATEL	atelic	INDF	indefinite
AUX	auxiliary	INS	instrumental
CLF	classifier	INFER	inferred
COLL	collective	INTERJ	interjection
COMP	complementizer	INTR	intransitive
COMPL	completive	IPFV	imperfective
CONN	connective	IRR	irrealis
CONJ	conjunction	LAT	lative case
CONT	continuous/continuative	LOC	locative

M	masculine	PST.UW	unwitnessed past tense
MED	medial	REAL	realis
NEG	negation	REDUP	reduplicated
NMLZ	nominalizer	RND	round
NOM	nominative	REFL	reflexive
NON1	second or third person (non-speaker)	REM.PST	remote past
		SEQ	sequential
NON.SPE	non-specific	SG	singular
N.S/A	non S/A subject	SM	sentence medial verb ending
NORM	normative	SS	same subject
N.PREF	nominal prefix	STAT	stative
NT	neutral modality	SJB	subject
OBJ	object	TOP	topic/topical
OVLP	overlap	TR	transitional sound
PFV	perfective	UP	higher elevation
PL	plural	VBLZ	verbalizer
POSS	possessive	VIS	visual
PREP	preposition	VOC	vocative
PRS	present tense		
PST	past tense		

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