The Syntax and Semantics of Clause-Chaining in Toposa[1]

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Some languages make extensive use of clause-chaining. According to Payne (1997: 312), clause-chaining has been documented for languages in the highlands of New Guinea, Australia and the Americas. In Africa it is found in Ethiopia (Völlmin et al. 2007), in Kiswahili, a Bantu language (Hopper 1979: 213-215, Mungania 2018), in Anuak, a Western Nilotic language (Longacre 1990: 88-90 and 2007: 418) and in Toposa, a VSO language of South Sudan (Schröder 2011). Clause-chaining is characterized by a long combination of non-finite clauses that have operator dependency on a finite clause, and it usually signals foregrounded information in discourse (see also Dooley 2010: 3). Besides its discourse function, clause-chaining exhibits morpho-syntactic and semantic properties as demonstrated in this paper with examples from Toposa, an Eastern Nilotic language.

Keywords: clause-chaining, foreground-background distinction, clause-chaining model, clause-skipping, discourse structuring.

1. Introduction

Some of the world's languages occur with extensive use of clause-chaining. Clause-chaining is found widely in SOV languages in Papua New Guinea (Elson 1964), in Australian languages (Austin 1979), in North American Indian languages (Longacre 1990), and in South America, Korea and Japan (Longacre & Hwang 2012). In Africa it is prevalent in SOV languages in Ethiopia (Völlmin et al. 2007), and it is reported for three SVO languages Kiswahili and Kisukuma, both Bantu languages (Hopper 1979: 213-215, Mungania 2018, Mbuki 2019), and Anuak, a Western Nilotic language (Longacre 1990: 88-90 and 2007: 418). I have argued recently that Toposa, an Eastern Nilotic language in South Sudan is also a clause-chaining language because of the way it organizes its discourse (Schröder 2011). However, Toposa is VSO.

In East Africa the clause-chaining phenomenon surfaces as narrative tense (Kiswahili), converbs (Ethiopia) or consecutive tense (Bantu/Tanzania). Particular the converbs in Ethiopia from Afroasiatic languages have attracted attention and discussions (see Völlmin et al. 2007). Converbs and clause-chaining effects have recently also been discovered in some Nilo-Saharan languages (Amha & Dimmendaal 2006).

This paper will show that the phenomenon of clause-chaining as described in Toposa cannot be regarded as a morpho-syntactic phenomenon only that conceptualises narrative or consecutive tense. A better option is to analyse clause-chaining as a discourse feature, because it motivates and underlines the structuring of texts; a fact which has so far been overlooked for a number of Nilotic and Bantu languages in East Africa.

This paper will demonstrate the typical characteristics of Toposa clause-chaining i.e. its morpho-syntactic and semantic properties, the foreground-background distinction, the reference tracking in the chains and several strategies that cause the chains to end. It will demonstrate its distribution i.e. that the non-finite verb form of the clause chains is not restricted to coordinative

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sentence structure only, but that it is also found in purpose and means-results subordinative sentence linkages.

The paper is organized as follows: Section 2 describes the characteristics of clause-chaining in Toposa i.e. its morphosyntactic and semantic features and the foreground-background distinction, section 3 discusses the clause-chaining model, section 4 deals with the reference tracking in the clause chains, section 5 presents a discussion how clause-chaining motivates the structuring of a discourse and section 6 will present the conclusion.

2. Characteristics of clause-chaining in Toposa

Clause-chaining has been defined in different ways. One common understanding is that clause-chaining characterizes non-finite clauses that show operator dependencies on the finite clause (Dooley 2010: 3, Payne 1997: 312, Longacre 1990: 11, Myhill & Hibiya 1988: 363). The finite clause can stand on its own and carries all the inflectional features like tense, aspect and mood (TAM) on a finite verb and is often referred to as the main clause in a coordinative-subordinative sentence construction. In a coordinative-clause-chaining combination the finite clause is referred to as the 'controlling clause', as it controls the TAM dependency. I shall refer to the non-finite clauses as *medial clauses* as coined by Haiman (1987), also mentioned in Bianti (2007:3).[2]

The next section will demonstrate the morpho-syntactic properties and the correlation of clause-chaining to the foreground-background distinction in Toposa.

2.1 Morpho-syntactic properties of clause-chaining. This section will discuss the morpho-syntactic properties and the orientation of the chain with data from Toposa[3] and considers the properties of clause chaining and the status of the finite and non-finite clause.

Let us look first at the morpho-syntactic properties of clause-chaining in Toposa, i.e. the operator dependency of tense/aspect of the non-finite verb, and the orientation of the chain.

Clause-chaining languages typically indicate the dependence on the controlling clause through morpho-syntactic means and they also determine the direction of the chain through the word order, which is either prenuclear in SOV languages, or postnuclear in SVO/VSO languages.

In Toposa, a typical clause chain starts with a controlling clause that is inflected for tense and aspect, whereas the verbs in the subsequent medial clauses carry the dependency markers *to-/ki-* which signal tense-aspect dependency on the finite verb or on a temporal adverbial that sets the time frame in the controlling clause[4], as in the following example (taken from Schröder 2013: 27):

(1) Bee   koloŋo   nuwan,   **to**-lot-o   Ŋe-buka   Kwee
     it-is-said long.ago   very   DEP-go-PL   M/SG-hyena   and jackal
     ŋa-ki-rap   ŋa-des̱i   moogwa,   **to**-ryam-u-tu̱
     INF-DER-search   F/PL-some   food   DEP-find-ALL-PL
     ŋa-ate   ka   ŋi-too̱ni̱.[5]
     F/SG-cow   of   D/SG-person
     'It is said that long long ago, Hyena and Jackal went to search for some food, they found a cow of someone.'

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[3] The data for this research are based on a collection of oral Toposa texts complied in M. Schröder (2010).

[4] Longacre (2007) identifies such an opening for clause chains as implicit finiteness.

[5] Note that +/- ATR has not been marked in these data. Underlined vowels at the end of words indicate voiceless vowels.

The above sentence represents a typical beginning of an animal fable. The story is set with the formula *bee* 'it is said' and the adverbial *koloŋo nuwan* that sets the time frame to the past and the following sentences are chained to the initial clause with the dependency marker *to-* in *toloto* 'they went' and in *toryamutu̱* 'they found'. Both verbs do not have the typical inflection that marks person, tense, and aspect on finite verbs. Compare these verbs with fully inflected ones (taken from Schröder 2008: 51):

(2)   a.   É-múj-ì   ɲá-kírî̩ŋ.[6]
             1P-eat-PRS:IMP   F/SG-meat
             'I am eating meat.'

        b.   Ì-múj-ì   ɲá-kírî̩ŋ.
             3P-eat-PRS:IMP   F/SG-meat
             'He is eating meat.'

        c.   È-múj-î   ɲá-kírî̩ŋ.
             1P-eat-PST:IMP   F/SG-meat
             'I was eating meat.'

        d.   È-mùj-í   ɲá-kírî̩ŋ.
             3P-eat-PST:IMP   F/SG-meat
             'He was eating meat.'

As these data show, the normal finite Toposa verb is marked for tense, aspect, person, and number. The tense system is a past and non-past type. Tense in Toposa is marked by the tone pattern that extends over the entire verb and varies according to verb class, person, number, and tense category. In addition to the tone pattern, a tense prefix *a-* occurs in the third person singular and plural in the past tense. In example (2c) and (2d), this tense prefix *a-* has become fused with the person agreement prefix *i-*, resulting in *e-* (for a more detailed description of the fusion of the past marker in TO and KI-class verbs see Schröder 2008: 53). Note how the tone pattern on the verb for first-person singular changes from HHL in (2a) to LHF in (2c) to mark the change from non-past to past. Similarly, the third-person changes from LHL in (2b) in non-past to LLH in (2d) in the past.

Additionally, Toposa has two aspects: imperfective and perfective. Imperfective aspect is indicated by the suffix *-i*, as shown in the above data.[7] The perfective aspect is indicated by the suffix *–iti̱*:

(3)   É-múj-îti̱   ɲá-kírî̩ŋ.
        1SG-eat-PFV   F/SG-meat/ACC
        'I have eaten meat.'

As these comparisons show, the two verbs *toloto* 'they went' and *toryamutu̱* 'they found' of example (1) do not have the typical tense-aspect inflection of the finite Toposa verb, they represent a non-finite form. Note also that they do not employ the typical person agreement marking as shown in example (2a-b).

The question that scholars are concerned with in regard to the non-finite clause in clause chains is whether the non-finite clause is coordinative or subordinative in nature. These non-finite clauses are exemplified in example (1) as those clauses that start the clause with the *to-* prefixed to

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[6] Note that the personal pronoun is usually not expressed as a free word but is integrated as an argument in the verb (Schröder 2008: 111).

7 The imperfect marker has an allomorph *-e* before the plural suffix *-te,* used in second and third person plural. First person plural uses the suffix *-i* with the plural suffix *-o.*

the verb, where the verb has lost those inflectional features of tense and aspect exemplified in the examples (2).

Some scholars point out that the non-finite clause in clause-chaining is like a coordinative clause (Roberts 1988: 4, 1997: 183, also Haspelmath 1995: 12-17, 2007: 46f). Stirling (1993: 195-198) discusses that in Papua New Guinean languages and mentions these clauses have been termed coordinative, citing Haiman (1980, 1983), Comrie (1983), and MacDonald (1983), among others. However, in Toposa, the non-finite clause shows morpho-syntactic dependency on the independent clause through the verbal prefixes *to/ki*. The dependency is of such a kind that the infinite clause picks up the TA inflection from the finite clause as in the case of example (1) and the medial clause continues to exhibit past tense. As this morpho-syntactic property of the non-finite clause exhibits morpho-syntactic dependency as an implicit inflectional property some scholars call it "quasi-coordinate" (Haiman & Munro 1983: xii, Stirling 1993: 15), because the clause shares with the coordination the inflectional property of past tense. Van Valin & LaPolla (1997: 455) add another dimension to the discussion they point out that a medial clause has semantically coordinative effects because it chains events in the narrative. In this respect the medial clause in example (1) displays the semantic coordination of the events of *toloto* 'they went' and *toryamutu̱* 'they found', but morpho-syntactically the events dependent on the tense introduced through the formal opening of a narrative with the formula *bee* 'it is said' and the adverbial *koloŋo nuwan* 'long ago' setting the time frame to the past. Van Valin and LaPolla call this clause linkage "cosubordination".

For a better understanding of the two paradigms the following examples demonstrate the difference between the inflected and dependent verb forms in Toposa for a KI-class verb (a-d) and a TO-class verb (e-h)[8] (Schröder 2015a: 234-235).

(4)   a.   è-mùj-í
                3P-eat-IMP
                'He was eating (inflected form).'

        b.   kí-múj
                 DEP-eat
                 'He was eating (dependent form).'

        c.   è-mùj-é-té
                 3P-eat-IMP-PL
                 'They were eating (inflected form).'

        d.   kí-múj-à
                 DEP-eat-PL
                 'They were eating (dependent form).'

        e.   á-lòs-í
                 3P-go-IMP
                 'He was going (inflected form).'

        f.   tó-lót
                 DEP-go
                 'He went (dependent form).'

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[8] Like most Eastern Nilotic languages Toposa has two verb classes. The distinction between the verb classes relies on the person prefixes that are associated with the classes. In the TO-class the personal prefixes in the order of 1st/2nd/3rd person SG and 1st/2nd/3rd person PL are: *a-, i-, e-, e, i-, e-,* in the Ki-class the person prefixes are *e-, i-, i-, i-, i-, i*. The marker TO and KI are taken from the respective imperative markers.

g. á-lòs-é-té
    3P-go-IMP-PL
    'They were going (dependent form).'

h. tó-lót-ò
    DEP-go-PL
    'They went (dependent form).'

Examples (5a-b) below demonstrate how the dependency marking would differ in first person singular and plural in personal narratives (Schröder 2015a: 233):

(5) a. … a-to-lot̯o
         1P-DEP-go
         'I go/went.'

     b. … a-to-lot-o
         1P-DEP-go-PL
         'We go/went.'

As the first person is marked with an overt prefix preceding the dependency marker of the medial verb, the assumption is that even DEP verb forms have a slot for marking the (coreferential) person on the verb, but they are only overt in the first person singular and plural, but zero in the third person.

Example (5a-b) are not finite verbs, they depend on a finite clause. A clause from a first person narrative shall demonstrate the use of the first person plural non-finite medial verb in a chain (Schröder 2015a: 233):

(6) Koloŋo ki-riŋ-a   dir̯i isuwa   ki-ra   ŋi-sorok̯o,
     long ago DEP-be.still-PL truly we.EX   DEP-be   M/PL-young.men
     a-**to**-lom-a   ɲa-kop̯o   na   a-bee-I   Nakamoŋo.
     1P-DEP-enter-PL   F/SG-place   which 3P-call-IMP   Nakamoŋo
     'Long ago [when] we were still young men, we settled in a place called Nakamongo.'

The non-finite forms of the verb are not normal infinitives, however. This can be seen from constructions like the following (Schröder 2013: 28):

(7) **To**-lot-o   Ɲe-bu   ka Kwee ɲa-ki-rap   ŋa-des̯i   moogwa.
     DEP-go-PL   M/SG-hyena and jackal INF-DER-search   F/PL-some food
     'Hyena and Jackal went to search for some food.'

The verb *ɲakirap* 'to search' represents the typical infinitive form, which consists of the prefix *ɲa-* and the derivation prefix *ki-*.[9]

Example (6) and (7) also show that the direction of the chain is post-nuclear, i.e. that the controlling clause precedes the medial clauses. The post-nuclear orientation of medial clauses is still a rare phenomenon (Dooley 2010: 6 and Payne 1997: 321), mainly because most cases of clause-chaining presented in the literature were found in SOV languages, whereas Toposa is a verb-initial language.

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[9] The derivation prefix occurs only when there is no verbal extension like allative, ablative, or benefactive. I am fairly certain that this is only true of TO-class verbs, KI-class verbs retain the ki- prefix.

2.2 Foreground/background distinction. I classified Toposa as a clause-chaining language (Schröder 2011) because it structures its discourse according to clause-chaining. The reason is that not all languages that indicate a TAM dependency in non-finite clauses are typical clause-chaining languages but only those whose discourse structure is organised through clause-chaining, a fact that will be demonstrated for Toposa in the following section.

The TAM marking in narratives has often been related to the distinction between foreground and background information as stated by Unger (2006: 306, among others). Under functional linguistic approaches, foregrounded events typically represent the event line of a story and are chronologically ordered. Representatives of this position are Hopper (1979/1998), Reinhart (1984), Fleischman (1985, 1990), Longacre (1990) and Longacre & Hwang (2012).[10] In line with this position, a typical understanding of foregrounded information is that it can be regarded as thematic information that develops and progresses the plot (or the arguments of a text), i.e. it represents the backbone of a text that carries the discourse forward and is of primary importance (Callow 1974: 52-53, Levinsohn 2010: 66). Background information on the other hand supports, explains and clarifies the thematic information and is of secondary importance, as described in Grimes (1975) and Levinsohn (2010: 69-71), among others.

As discussed in the previous section, in Toposa, the clause chain markers *to-/ki-* are verbal prefixes that indicate in all medial clauses that the medial verb has the same tense/aspect as the verb in the controlling clause (which in narratives usually is a form of past tense).

For a demonstration of how the *to-/ki-* markers work for the distinction of background and foreground information, I shall examine three types of texts: a narrative, a procedural and a descriptive-expository text.[11]

First, let us consider the beginning of a narrative (taken from M. Schröder 2010: 6):

(8) S1 Bee   koloŋo nuwani, na   eyakatare   ŋituŋa kidyaama,
         It-is said   time   long.ago when there.were   people in.heaven
         ta-tamu   Ɲakuju ɲayeawuni   ikesi   kopo.
         DEP-thought God   to.bring   them   down
         'It is said [that] long ago, when there were people in heaven, God planned to bring them down [to earth].'

     S2 Abu Ɲakuju, **to-**limoki   ɲikaɲiti nitikawosoni   nibe   Napurukucu,
         came God,   DEP-told   bird   very.clever   who.called Napurukucu
         tem,   "To-woyiu   ɲawuno, kotere   **ki-**yooliyorotori   ŋituŋa kopo."
         DEP:said   IV-twist   rope   in.order.to DEP-take   people down
         'God came, he told a very clever bird whose name was called Napurukucu (= Orange Starling), he said, Twist a rope in order to take people down.'

     S3 **To-**woyiu   nai   Napurukucu ɲaputu   natikaanikani, **to-**woi loowoi.
         DEP-twisted   so   Napurukucu tendon-string which.strong   DEP-long very
         'So Napurukucu twisted a strong tendon-string, it was very long.'

     S4 **Ki-**yooliwunoe   nai   ŋituŋa,   **ki-**bitibitiuni   kopo,   ŋaberu
         DEP-were-let-down so   people,   DEP-let.themselves   down,   women
         ka   ŋide   tya   ŋikecekilyoko.
         and   children   and   husbands-theirs

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[10] An extensive discussion of the different views on how the TAM distinction contributes to the foreground-background distinction is found in Unger (2001: 98-130), and (Unger 2006: 3-5).

[11] Note that the term "procedural" here refers to a type of text as defined in Longacre (1996: 10), not to the sense in which it is used in Relevance Theory (Sperber & Wilson 1995: 258), see also example (10).

> 'The people were let down, they let themselves down, the women and children and their husbands.'

S5 **To**-doka   ŋituŋa   ŋurwa ŋiaarei, juutawar,   kiiya kuwala.
    DEP-climbed.down people   days   two   dusk   dawn
    'The people climbed down [for] two days, [from] dusk <juu> [until] dawn <kiiya> (= day and night).'

The first part of sentence (S1) *Bee koloŋo nuwani, na eyakatarę ŋituŋa kidyaama* 'It is said long ago, when people were in heaven' sets the scene for the narrative, the main verb *bee* 'it is said' is a frozen form of the verb *bala* 'to say' which developed into an opening formula. That the time frame for the events is set in the past is underlined through the adverbials *koloŋo nuwani* 'long ago'. The clause represents the setting of a narrative and opens up the contextual information that all people were in heaven, and raises expectations of what is going to happen to them. The medial clause *tatamų Ṇakuju* 'God thought' which carries the dependency marker *ta-* has the same time frame as that of the controlling clause which points to the distant past. In the expression *abu Ṇakuju* 'God came' in (S2) the person agreement prefix *a-* of *abu* 'he came' includes the fused past tense marker *a-*. This sentence serves as the controlling clause of a long chain. All other events following *abu,* i.e. those that carry the *to-/ki-* markers, take place in the past, copying the past marker of the initial clause into the entire chain (taken from Schröder 2013: 33):

(9)   **ta-**tamų   'he thought'
       to-limokį ṇikaṇitį   'he told the bird'
       tem[12]   'he said'
       to-woyiu Napurukucu   'Napurukucu twisted'
       to-woi   'it (the rope) was long'
       ki-yooliwunoe nai ŋituŋa   'so the people were let down'
       ki-bitibitiuṇį kopo   'they (the people) let themselves down'
       to-doka ŋituŋa ŋurwa ṇiaarei   'the people climbed down for two days'

It is widely accepted that narratives are built on successions of events that take place in the past, so the above chain represents the foreground information of one paragraph.

On the other hand, if a verb carries the normal tense-aspect markers as described in conjunction with examples (2a-b) and (3) and if there is no *to-/ki-* marking, the hearer infers that that information does not contribute to the sequential order of the events but clarifies, explains or supports the sequence of events and is more backgrounded. In this way the relative clause (S2) *nibe Napurukucu* 'which was called Napurukucu', which introduces one of the main characters of the story, is backgrounded.

Next, let us consider a procedural text. Like narrative texts, which are based on a progression of events, procedural texts also involve progression, but while narratives tell *what someone did*, procedural texts describe *how it is (normally) done*.[13] A narrative is fundamentally descriptive in nature, whereas a procedural text is more prescriptive. While succession of events or processes is a common feature of both narrative and procedural texts, the two texts substantially differ in terms of participants. A narrative has a +participant setting and the procedural has a -participant parameter.[14] The following Toposa procedural text describes how a woman gives birth, and the activities and customs that surround it (taken from M. Schröder 2010: 113):

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[12] In this verb, the dependent marker *t-* is fused with the root.
[13] This kind of discourse is found in manuals, prescriptions of recipes and any kind of rule book.
[14] C.f. Longacre's text typology (Longacre & Hwang 2012: 37).

(10)   S1   Egelagela   ŋitalyo   ka   Ɖitoposa,   tarai   eya   ŋitalyo
            be.different customs   of   Toposa   but   are-there   customs
            ŋicye   lu   ikwaana̱.
            others   which   be.same
            'The customs of the Toposa are different, but there are some customs which are the
            same [for all clans].'

       S2   Na   idowuno   ɲaberu,   **to**-tubw-oe   ɲapusiti̱   ka
            When   give-birth   woman   DEP-cut.off-PAS   umbilical   of
            ɲikoku   ka   ɲebaɲete̱.
            child   with   blade
            'When a woman gives birth, the umbilical cord of the child is cut with a blade.'

       S3   **Ki**-lomakin-ae   nai   ɲaberu   kai.
            DEP-put.into-PAS   then   woman   house
            'The woman is put into a house.'

       S4   **To**-mudar-ae   ɲaɲasepe̱,   kalo   taleo   ka   ŋicye,
            DEP-carry.out-PAS   placenta,   according   customs   of   some
            enukwakin-o   ɲaɲasepe̱   nakutuku̱   ka   ɲakai
            bury-PAS   placenta   at.entrance   of   house
            kode   ŋicye   **to**-nukwakina   nakeju   ka   ɲeŋoomo
            or   others   DEP-bury   at.foot of   ngoomo.shrub
            'The placenta is carried outside, according to some customs the placenta is buried at
            the entrance of the house or at the foot of (= under) a ngoomo-shrub.'

       S5   **Ki**-booyi   ɲaberu kalo   kai   tani̱   ecakuni̱ ɲapusiti̱ ka   ɲikoku.
            DEP-stay   woman   inside house   until   fall.off umbilical of   child
            'The woman stays in the house until the umbilical cord of the child falls off.'

In this text the dependency markers signal the progression of processes, not of narrated events. However, in the same way as in narratives, the chains also adopt the tense of the controlling clause. The first sentence *Egelagela ŋitalyo **ka** Ɖitoposa, tarai eya ŋitalyo ŋicye lu ikwaana̱* 'The customs of the Toposa are different, but there are some which are the same' is expressed in the present tense, and so is the beginning of the second clause *Na idowuno ɲaberu* 'when a woman gives birth', whereas all medial clauses follow the tense[15] operator of the controlling clauses and adopt present tense, and carry the dependency marker *to-/ki-* for clause-chaining (discussed in Schröder 2013: 34):

(11)   **to**-tubw-oe ɲapusiti̱   'the umbilical cord is cut'
       ki-lomakin-ae ɲaberu kai   'the woman is put in house'
       to-mudar-ae ɲaɲasepe̱   'the placenta is carried outside'
       ŋicye **to**-nukwakina nakeju ka ɲeŋoomo   'others bury it under a ngoomo-shrub'
       ki-booyi ɲaberu kalo kai   'the woman stays in the house'

The above chain of progression represents the foreground information of the paragraph. Note that both verbs in (S1) i.e. *egelagela* 'they are different', and *eya* 'they are', and the verb *idowuno* 'she gives birth' in (S2) are verbs that show the normal tense marking, as described in

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[15] In procedural texts no aspect marking is employed, because another feature of procedural texts is the use of the passive marked with the suffix –ae and –oe as seen in example (7).

example (2a-b) and (3) above. Since these verbs do not carry *to-/ki-* marking, they contain background information: they set the scene for the description of the processes of childbirth.

Inside the chain of salient processes of childbirth, a statement is made about the disposal of the placenta: *enukwakino ŋaŋasepẹ nakutukụ ka ŋakai* 'the placenta is buried at the entrance of the house', no foreground indicator appears in this comment. (Why this sentence does not carry the foreground marker *to-/ki-* will be explained in section 3).

My final example comes from a descriptive-expository text. This type is neither agent-oriented, no does it have a progression of events, in effect it describes *how people [normally] do it*.[16] Our example describes the ritual of initiation among the Toposa, and it uses present tense (M. Schröder 2010: 114):

(12) S1 Sekẹ na   ecamitere   ŋakitasapanạ   ŋituŋa, isyawunete   mono
          So   when is.wanted   to.initiate   people, begin   DM
          ŋikaŋakạ,   **ki**-ryama,   **to**-tukwo   ŋatemarị   itemokino
          leaders   DEP-meet   DEP-discuss   that   is.appropiate
          ŋide   lu   eriŋa   ŋesapana,   itasapanio.
          children who   are.not.yet   not.initiated   be.initiated
          'When it is wanted (= when the leaders want) to initiate people, the generation-set
          leaders begin, they meet, they discuss that it is alright to initiate the children (= filial
          generation) who have not yet been initiated.'

      S2 **To**-sewutụ   nai   ŋitoonị ni   edikino erawuni ŋekaŋanị ka ŋikasapanakạ.
          DEP-select   then   person who will become leader   of initiates
          'They select a person who will become generation-set leader of the initiates.'

      S3 Kalo   talẹ   ka   Toposa,   esewunio   ŋitoonị kalo
          According   custom of   Toposa,   is.selected   person   from
          kalẹ   kalo   kajokoni   ka   ŋirotinị ka   daanị.
          home   from   good   in   ways   in   all
          'According to the sacred custom of initiation a person from a good family in every
          way is selected.'

      S4 **Ku**-wudakisị   nai   ŋituŋa lu   ecamito ŋasapanạ   waapei,
          DEP-gather   then   people who want   initiation   one.place
          ŋikilyokọ   ka   ŋide   luucik, **ta**-ŋama   ŋikorae kode   ŋemoŋọ.
          men   and   children small   DEP-eat   rams   or   ox
          'The people who want to be initiated gather in one place, the men and the children
          [of the new set], they eat goats or an ox.'

      S5 Ŋarumworetẹ   ŋuna,   **to**-loto nai   **to**-pero   naperitị.
          end   this,   DEP-go then   DEP-sleep   in.sleeping.ground
          '[After] the end of that they then go to sleep in the [separate] sleeping-ground.'

      S6 Ani   iwalari, **ki**-ryewutụ   ŋaberụ kecẹ   tya   taityekecẹ
          When   dawns, DEP-grind   wives their   and   their.mothers

---

[16] One reviewer raised the question whether procedural (texts that deal with how it is done) and descriptive-expository texts (texts that describe how people normally do it) can be collapsed into one category. I maintain the position that they are distinct. Procedural texts are prescriptive in nature, they are like rule books, they represent a collection of rules that lead to a completion of a product like the recipe for a cake. Descriptive-expository texts are descriptive in nature and describe what people normally do from an observational point of view.

ka	ŋide		ŋatapae.
of	children		porridge

'When it dawns, the wives and the mothers of the children grind [and bring] porridges.'

S7 Na   epapuuneta   ŋaberu naperiti̱,   **ku**-waasi   ŋikilyoko̱,
    When   approach   women sleeping.ground DEP-sing   men
    ta-mawutu̱   ŋituŋa   ŋuuni   kode   ŋooŋwono̱,   **to**-kusete   ɲarupepe,
    DEP-praise people   three   or   four   DEP-blow.SIM horn
    ɲepite   ŋolo   **ku**-waŋakisi̱   ŋaberu̱ daŋ   ŋaatuku̱   kece̱.
    custom   that   DEP-praise   women also   cows   their
    'When the women approach the sleeping-ground, the men sing [antiphonally], they praise three or four people [so they come out and perform a dance], while they are blowing a horn, according to custom the women also sing praises of their cows.'

S8 **Ku**-waakisi̱ nai   ŋaberu̱ ŋamuja kopo̱.
    DEP-put   then   women foods   down
    'Then the women put the foods on the ground.'

S9 **To**-sewun-ae   nai   ŋituŋa lu   ekorakinete ɲakumuju̱ lotuŋa.
    DEP-select-PAS   then   people who   distribute food   to.people
    'Then people are selected who distribute the food to the people.'

      This text describes the events that happen during the initiation of young men. The chain adopts the present tense from the controlling clause. The first part of the sentence *Seke̱ na ecamitere ɲakitasapana̱ ŋituŋa, isyawunete mono ŋikaŋaka̱, ...* 'When initiation of the people is wanted, then the generation-set leaders begin,' opens the expository text and is the controlling syntactic clause in present tense and imperfective aspect. The following clauses describe the initiation process and they are all marked with the clause chain indicators *to-/ki-* (see also Schröder 2013: 37):

(13)   **ki**-ryama   'they (the leaders) meet'
          to-tukwo   'they discuss'
          to-sewutu̱ ɲitooni̱   'they select a person'
          ku-wudakisi̱ ŋituŋa   'the people gather'
          ta-ɲama ŋikorae kode ɲemoŋo̱   'they eat goats or an ox'
          ki-ryewutu̱ ŋaberu̱ ŋatapae   'the wives bring porridge'
          ku-waasi ŋikilyoko̱   'the men sing'
          ta-mawutu̱ ŋituŋa ŋuuni kode ŋooŋwono̱ 'they praise three or four people'
          to-kusete ɲarupepe   'while they are blowing a horn'
          ku-waŋakisi̱ ŋaberu̱ daŋ ŋaatuku̱ kece̱. 'the women also praise their cows'
          ku-waakisi̱ ŋaberu̱ ŋamuja kopo̱.   'women put food on the ground'
          to-sewunae ŋituŋa   'people are selected'

      As with the other genres considered before, also here in this descriptive text all chained clauses are the ones that contain foregrounded information. Embedded in the chain there are a few clauses showing background information: The sentence (S3) *Kalo tale̱ ka Toposa, esewunio ɲitooni̱ kalo kale̱ kalo kajokoni̱* 'according to the sacred custom of the Toposa, a person from a good family is selected' clarifies who one of the main actors is in the initia**tion** process. The following clauses in (S1) *lu eriŋa ɲesapana, itasapanio* '[children] who are not yet initiated, are initiated', and in (S4) *lu ecamito ɲasapana* '[people] who want initiation' are both backgrounded and serve as clarifications regarding the actors in the initiation process. (S6) *Ani iwalari* 'when it dawns' sets the

stage for the next phase of the initiation process. All these clauses (which exhibit normal tense aspect marking) are selected as background information by the hearer.[17]

In Toposa clause-chaining is not genre-specific, it can occur beyond the narrative text which is the most frequent genre that employs clause-chaining (c.f. Dooley 2010:4).

After having established how the features of clause-chaining structure the narrative, procedural and descriptive-expository texts a further question has to be answered, what is the scope of the clause-chaining features in Toposa?

3. The clause chaining model

It is not uncommon that clause chains to a certain extent may contain subordinate clauses although these are typically considered background information, and thus this behavior of some clause-chaining languages confuses the fundamental distinction discussed above. In any case, a language has to be tested whether subordinated clauses can appear with the medial marker, and if so, which ones and how the clause chaining effect in subordinated clauses effects the overall model of coordinative and subordinative sentences known from English.

Longacre (1996: 285-286) observed that language could either fall under the 'co-ranking' or 'chaining model'. The co-ranking model groups clauses such as time, condition, concession, purpose, reason etc. as subordinate clauses. The chaining model however cannot allow two independent verb forms following each other but forces the chaining effect to dominate the structure of discourse. Following this suggestion Toposa falls into the chaining model. In this model the structures that follow the initial inflected opening clause are reduced to structures that are marked with the clause chaining marker.[18] Thus, the division of the clause types is organised around the overall foreground and background effect. The clause types that such a model employs are independent, medial clauses and as a third category subordinated clauses with finite verbs. Those clauses are found in clause skipping. To start the argument, the next section will demonstrate the clauses known as subordinate clauses that use the medial verb form.

3.1. Subordinative clauses with medial verbs. The following subordinative clauses are integrated into the chains and use medial verb forms. Such clauses are purpose and means-result clauses.

In Toposa, the purpose clause employs the medial verbal form. If *kotere* occurs with a medial verb, it introduces a purpose clause and its meaning is introduced with the semantic connection *kotere* 'in order to', see the following example:

(14)   … **ta**-tyakae   nai   kalo   kidiŋi̱
        DEP-divide   DIS   from   middle
        kotere   **ku**-waae   ŋepeewae
        in.order.to   DEP-store   one part
        'It was divided in the middle (= into two parts) in order to store one part.'

It is also possible that *kotere* introduces semantically a means-result relationship. In that case a medial verb has to be used, see the following example:

(15)   **To**-sewutu̱   ŋelapa̱ kode   ŋekaru,
        DEP-choose.VEN/PL   month   or   year

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[17] This observation is confirmed by Unger (2006) for narrative texts. He states that there is a correlation between the expectation of listeners to understand events in narratives as their most relevant information through the encoding of tense and aspect (p. 306), but that this relationship has rarely been reported for non-narrative types of text (Unger 2011: 110). However, the two texts in (10) and (12) above show that the Toposa markers are not confined to narratives but are also found in procedural and expository-descriptive texts.

[18] Longacre (1996: 286) also calls this verbs 'consecutive' verb.

kotere **ku**-waruneta ɲituŋa ŋiboro ka ɲakidamadamạ.
so that DEP-look.VEN/INS/PL people things of dance
'They choose a month or a year, so that people will look for the things of the dance.'

The idea that subordination clauses headed by conjunctions could be part of the chain was rejected by Myhill & Hibiya in their clause-chaining definition (1988: 363). They specifically stated that clauses headed by conjunctions cannot constitute chains. This statement was falsified through example (14) and (15) in Toposa. Note that the above two examples show that *kotere* 'in order to/so that' is polysemous and context has been used to disambiguate the meaning of the clauses.

The coordinative contrast relationship is expressed by the conjunction ***tarai*** **'**but' which can occur with and without medial verbs. The narrator can decide which contrast clause is foreground or background information. Consider *tarai* with a medial verb first:

(16) **Ki**-bi Lobela Lolemumoe, tarai **to**-pegẹ Lolemumoe jikị.
DEP-ask Lobela Lolemumoe but DEP-deny Lolemumoe strictly
'Lobela interrogated Lolemumoe, but Lolemumoe denied [it] strictly.'

Note how *tarai* here heads an event clause with an event verb that is part of the foreground event line in a narrative. If however *tarai* is used with an inflected verb, the verb is a non-event verb that places the sentence in the background information span also taken from a narrative text:

(17) **To**-ɲara ɲekasukowutụ ŋaberụ, tarai a-potụ
DEP-call elder wives but 3PP-come-P/PER
ŋaberụ daanị **to**-jotoorosị.
women all DEP-sleep
'The old man called [his] wives, but all the women had come [discourse] [and] had fallen asleep.'

The *tarai* clause with the inflected verb describes an anterior event and represents background information.

The coordinative additive relationship also employs the medial clause marking and no conjunctions are used. The sentence construction consists of a controlling clause and one or two (at most) medial clauses:

(18) A-bu **to**-osikị ɲakimar sementiks, **ta**-lakarị ɲakilo.
3P-came DEP-give.up reading semantics, DEP-happy more.than
'He gave up studying semantics and felt much happier.'

(19) E-baritị ɲekilye, **to**-yar-ite.
3P-rich man DEP-live-SIM
'The man is rich and (furthermore) successful.'

Note in (18) the onset *abu* 'he came'[19] has to occur. In example (19) the **s**uffix -*ite* indicates simultaneity. The second clause of example (18) can also be understood as a result of the first statement 'he felt much happier'. In example (19) the medial clause demonstrates a dependent consequential relationship. The above examples confirm Longacre's (1996: 286) observation that in the chaining model two independent clauses following each other are not permitted. The next category of clauses represents the subordinative clauses with finite verb inflection.

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[19] The full function of *abu* 'he came' occurring in texts or in single co-ordination is still under investigation.

3.2 Subordinative clauses with finite verbs. In Toposa, temporal adverbial clauses and adverbial clauses with 'until', complement clauses, and reason clauses are typically not included in clause chains and occur with inflected verbs.

Toposa has temporal adverbial clauses that are introduced with *ani* 'when' and *na* 'at the time', 'whenever'. These clauses occur with fully inflected verbs, see the following examples taken out of example (5):

(20)   Na   e-yakatare̱   ŋ̠ituŋa kidyaama, …
        when   3PP-were   people above
        'When there were people in heaven, …'

The verb in the clause is fully inflected and it introduces the chains for the whole story as it is part of the introduction. The temporal clause is followed by the medial verb *tatamu̱ Nakuju̱* (God thought), see another example with *ani* taken also from example (5):

(21)   …ani   e-baa-si   ŋurwa   apana   uni,
        when   3PP-say-IMP:PL   days   up_to   three
        ku-buɲakini̱   ɲaberu   na   a-poti …
        DEP-eager   woman   who   3PP-be_pregnant
        'When it was almost three days, a woman that was pregnant was eager to...'

The inflected verb in the clause that starts with the conjunction *ani* 'when' interrupts the chain. *Ani* often indicates the beginning of a new paragraph. The clause chain stops before the adverbial subordinate clause with *ani* and at the same time this clause also starts a new chain with *kubuɲakini̱ ɲaberu* 'a woman was eager'. Temporal clauses are also used for discourse structuring see the session below.

The adverbial clause expressed by *tani̱* 'until', which is placed at the end or in the middle of a chain, is used with inflected verbs and typically contains background information. The following example shows the occurrence of *tani̱* in the middle of a clause chain:

(22)   **Ki-**syautu̱[20]   nai   ikesi̱   ɲe-kere,   **to-**sukwo   kaneni
        DEP-begin   DIS   they   INF-race   DEP-runPL   from.there
        tani̱   e-naŋ-i   Nebu   nikalonani̱,   **to-**ɲara Nebu Nakidodoko̱.
        until   3P-reach-IMP   hyena   far_away   DEP-call hyena frog
        'They began racing, they ran from there until Hyena reached far away, Hyena called Frog.'

As this example shows, the chain is not broken through the occurrence of the adverbial clause with 'until', a phenomenon that is explained in the section under clause insertion.

In some languages, clause-chaining can include conditional clauses (see Stirling 1993: 190, where an example for Amele is quoted). In Toposa, conditional clauses are generally not included in the chain and are used with inflected verbs. As the following example shows, the conditional clause often interrupts a chain to provide some background information:

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[20] If sentences are starting with a dependent verbs, they are taken out of chains for the purpose to show certain linguistics features for example (22) demonstrates that the adverbial clause starting with *tani̱* 'until' is not used with a dependent verb.

(23)　　…ani　　e-cam-it<u>i</u>　　　iŋes<u>i</u>　　ɲa-ki-mar<u>a</u>,
　　　　　If　　3PS-want-PER　　he　　INF-DER-count
　　　　　ki-tegyelana　　　　　ka　　ŋateketa　　　kode　　ka　　ŋikalea kec<u>e</u>.
　　　　　DEP-CAUS:divide　　　by　　categories　　or　　by　　homes　their
　　　　　'If he wants to count [them], he divides [them] into their categories, or by their homes.'

　　　　Note that the verb in the conditional clause carries a perfective suffix and the present tense meaning,[21] so the verb in the medial clause copies the present tense meaning.
　　　　Note further that the conjunction *ani* 'when' can also be used for conditional clauses with the meaning 'if'. The conditional realis will use *ani* only and the irrealis *ani kerai*.
　　　　Adverbial clauses of manner are always regarded as background information and occur with an inflected verb, as in the following example:

(24)　　Bee　　　　　koloŋo　　　ɲacye　paaran<u>i</u>, **to-**rot-ok<u>i</u>　　　　　　Ɲemir<u>i</u>,
　　　　　It.is.said　　long.ago　　another　day　　DEP-set.out-BEN　　mouse
　　　　　to-rukwa-u　　Ɲeŋatuŋ<u>u</u>　　e-per-i　　kana　dui　keŋ<u>e</u>.
　　　　　DEP-find-ALL　　lio<u>n</u>　　　　3P-sleep-IMP　　in　　hole　his
　　　　　'It is said that one day Mouse set out, he found Lion sleeping in his hole.'

　　　　The manner clause *eperi kana dui keŋe* 'sleeping in his hole' has an inflected verb.
　　　　Toposa has a conjunction *kotere* which can be used with both, inflected and medial verbs. In case *kotere* occurs with inflected verbs its meaning is 'because' and it represents a reason-result sentence in a chain, see the following example:

(25)　　… **ku-**wokor<u>i</u>,　　**ki-**jirakini　　　na-kipi, kotere　e-kuryan-iti　　daŋ　Ɲepeoot<u>o</u>.
　　　　　DEP-run　　　　DEP-slip　　　　water　because　3P-afraid-PER　also　hunting-dog
　　　　　'He runs away, slips into the water, because he is also afraid of hunting dog.'

　　　　The subordinative clause introduced by *kotere* has an inflected verb, following two medial verbs and is often placed at the end of the sentence construction. The occurrence of the medial verb indicates to the hearer that the clause is not providing the purpose for the action of the previous clause, but it is semantically a reason-result clause, compare with example (14).
　　　　Complement clauses occur with fully inflected verbs and not with medial verbs.

(26)　　... **ki-**boyii ca,　　**ta-**aɲ<u>u</u>　　　Kwee　ɲatemar<u>i</u>　　e-twanit<u>i</u>　　itekeŋ<u>e</u>.
　　　　　 DEP-sit DIS　　DEP-see　　Jackal　that　　　　　3P-died-PER　mother-his
　　　　　'He (= Jackal) sat (= waited), Jackal saw that his mother had died.'

　　　　It is not uncommon to have negation excluded from the clause-chaining devices, because they indicate background information (Longacre & Hwang 2012: 185), see the following example:

(27)　　**Ku-**cwa-k<u>i</u>　　ŋituŋa　ɲaaɲun<u>i</u>　　　ɲaŋololo　　　ŋina,
　　　　　DEP-send-BEN　people　to.find　　　　river　　　　that
　　　　　tarai　　ɲ-e-dolo　　　ŋituŋa　ŋulu,　**ta-**tam<u>u</u>　　nabo　Lokoliŋiro …
　　　　　but　　NEG-3PP-reach　people　these　DEP-think　　again　Lokoliŋiro
　　　　　'He [Lokolingiro] sent people to find that river, but these people did not reach [it]. Also, Lokolingiro thought …'

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[21] There is a small group of verbs in Toposa that carry perfective marking but really have present continuous meaning, possibly in the sense of 'has started to'.

In example (27) the negative clause *tarai ɲedolo ŋituŋa ŋulu* 'but these people did not reach [it]' interrupts the chain that continues with *tatamu̱ nabo Lokoliŋiro* 'also, Lokolingiro thought'. The negation clause is not used with the medial verb. Negative clauses are typically regarded as background information and categorized as collateral information (Grimes 1975, Longacre & Hwang 2012:18).

3.3 Clause insertion. There is an intriguing phenomenon in the discourse structuring of some clause-chaining languages in that they allow a clause with a regular verb inflection to be inserted into a chain without breaking it. This clause insertion is not a new phenomenon for clause-chaining languages. Lesley refers to this form of insertion as "clause skipping" (1993: 18-20).

Toposa allows two types of clauses to be inserted in this way, all subordinative clauses with finite verb inflections and metarepresentations.

The following example presents an embedded clause with regular verb inflection as an example of all the other clauses discussed above that do not break the chain (data taken from M. Schröder 2010: 48):

(28)	Ani	e-jeketa	ŋakile	ka	ɲaate,	**ta**-ratarata	Kwee	Ɲebu,
	When	3P-become.good	milk	of	cow	DEP-cheat:INT	jackal	hyena

     to-lepuuni   ca   ɲaate,   **to**-ŋoba   ŋakile,
     DEP-milk:HAB:SIM   DIS   cow   DEP-drink.up   milk

     ani   i-doŋ-i   ɲegoototo,   **to**-lemu̱   ɲacoto,   **ki**-yatakinea …
     when 3P-remain-IMP:PAST   foam   DEP-take urine   DEP-add

     'When the milk of the cow had become good, Jackal cheated [intensive] Hyena, he continually milked the cow, he drank up the milk, when [only] foam remained, he took urine, he added [that],...'

Into this chain of eight clauses (only five are shown), the clause *ani idoŋi ɲegoototo* 'when [only] foam remained' has been inserted without breaking the chain: the paragraph continues with *to-/ki-* forms, which are still dependent on the first controlling clause of the string of clauses.

In terms of the foreground-background distinction the embedded clause can be regarded as background information that clarifies the logical succession of the events in the chain. In example (28) the skipped clause explains when hyena added urine to the milk.

Chains can also have metarepresentations inserted. Metarepresentations constitute thoughts about known customs, sayings or citations. They a shared implicit background information in the mind of the narrator and listener and they are made explicit for the explanation of the succession of the actions that taken place. In the following example the metarepresentation refers to a custom that regulates the burying of the placenta (this is the same as S4 in example (10) above):

(29)	**To**-mudarae	ɲaŋasepe̱,	kalo	taleo	ka	ŋicye,
	DEP-carry.out	placenta,	according	customs	of	some
	enukwakino	ɲaŋasepe̱	nakutuku̱	ka	ɲakai
	bury-PAS	placenta	at.entrance	of	house
	kode	ŋicye	**to**-nukwakina	nakeju	ka	ɲeŋoomo.
	or	others	DEP-bury	at.foot	of	ngoomo.shrub

     'The placenta is carried outside, according to some customs the placenta is buried at the entrance of the house or at the foot of (= under) a ngoomo-shrub.'

Inside the chain of the salient processes of childbirth, a statement is inserted about the disposal of the placenta: *kalo taleo ka ŋicye, enukwakino ɲaŋasepe̱ nakutuku̱ ka ɲakai* 'according to the customs of some, the placenta is buried at the entrance of the house'. The reason why this embedded comment does not carry any chaining marker to-/ki- is that it constitutes a metarepresentation which serves as a backgrounded explanation for why the placenta is buried at

the entrance of the house. The burying is not only a random process but has to follow clearly defined procedures. The next clause resumes the previous chain, as is indicated by the verb in *ŋicye tonukwakina* 'others bury it', i.e. the metarepresentational clause is inserted into the chain without breaking it.

Metarepresentations of this type do not only occur in narrative and procedural texts but also in expository ones. For example, the following contains another metarepresentation that explains a custom (I repeat here only S2, S3 and the beginning of S4 from (9) above):

(30) **To**-sewutu̱   nai   ɲitooni̱ ni   edikino erawuni ɲekaŋani̱ ka ŋikasapanaka̱.[22]
      DEP-select   then   person who will   become leader   of initiates
      Kalo   tale̱   ka   Toposa,   esewunio ɲitooni̱ kalo   kale̱
      According   custom   of   Toposa,   is.selected person from   home
      kalo   kajokoni̱ka   ŋirotini̱ ka   daani̱. **Ku**-wudakisi̱   nai   ɲituŋa …
      from   good   in   ways   in   all   DEP-gather   then   people
      'They select a person who will become generation-set leader of the initiates. According to the sacred custom of initiation a person from a good family in every way is selected. Then the people collect ...'

The inserted clause with the verb *esewunio* 'he is selected' shows no *to-/ki-* marking. Pragmatically, it is a metarepresentation that explains the principle that guides the selection of a ceremonial leader, which is underscored by the phrase 'according to the sacred custom of initiation'. In terms of discourse structure, this clause provides additional background information.

In summary one can say the inserted clauses serve as background information to explain, clarify or comment on the actions in narrative clauses, the procedures in procedural texts or the descriptions in expository texts.

One reason for clause skipping can be explained with the principle of economy. If the narrator thinks an explanation for the action, procedure or description is needed; he inserts an inflected clause that effectively ignores the structure of the chain. In terms of language production, the insertion of background information is very efficient. Schröder (2013: 39) points out that the cognitive processing of the foreground markers *to/ki* have developed into pragmatic routines that guide the hearer to comprehend the foreground information effortless. Similarly, the absence of the foreground marker guides the hearer to access and interpret explanations and comments on the foreground information.

The next question deals with how the co-reference is handled in Toposa clause-chaining, which is either a choice between switch-reference or pivot constraint.

4. The co-referential pivot in Toposa clause-chaining

Switch-reference are known to accompany clause-chaining languages as stated by Roberts (1988: 62), Stirling (1993: 14), Dooley (2010: 5), Huang (2000: 289-290), and Longacre & Hwang (2012: 9). Toposa, however, works on a mixed S/A-S/O pivot constraint and does not employ switch reference for tracking referents in the chains.

If languages have a S/A pivot constrain,[23] the coreferential NPs are found in S or A functions. In order to maintain the S/A constraint an NP in O function has to be passivized to satisfy this pivot. Languages with S/O pivot, however, operate with the corefential NPs of S and O. In order to keep the constraint, a NP that is in A function, has to be antipassivized.

The coreferentiality in Toposa has two major conditions (discussed previously in Schröder 2015a: 235):

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[22] As in S5 in example (2), the relative clause is subordinate and not part of the chain.
[23] When talking about S/A or S/O pivots, S refers to the subject of the intransitive clause, A to the subject of the transitive clause and O to the object of the transitive clause.

1. Formal condition: The coreferent is marked on the verb as an integrated subject pronoun either by an overt morpheme for first person singular and plural, or by a zero morpheme for second and third person singular and plural.

2. Functional condition: The interpretation of argument coreferentiality between clauses works on a mixed S/A-S/O pivot.

How the formal and functional conditions of Toposa coreferentiality function will be demonstrated in the next section.

4.1 The S/A pivot. This section shall demonstrate the S/A pivot relationship between coreferential arguments. Consider example (31) which repeats the first two sentences from example (8):

(31)   A-bu   Ɲakuju̱, **to**-limoki̱   ɲikaɲiti nitikawosoni̱   nibe   Napurukucu,
       3P-came God,   DEP-told   bird   very.clever   who.called Napurukucu
       tem,   "To-woyiu[24] ɲawuno,   kotere   **ki**-yooliyorotori̱ ɲituɲa   kopo̱."
       DEP:said IV-twist   rope   in.order.to **DEP-take   people   down
       'God came, he told a very clever bird whose name was called Napurukucu (= Orange Starling), he said, «Twist a rope in order to take people down.'

Consider also the following sentences in example (32) from an expository-descriptive text (which repeats three sentences from example (12)):

(32)   S1 Seke̱   na   ecamitere   ɲakitasapana̱ ɲituɲa, isyawunete mono
           So   when   is.wanted   to.initiate   people, begin   DM
           ɲikaɲaka̱,   **ki**-ryama,   **to**-tukwo   ɲatemari̱   itemokino
           leaders   DEP-meet   DEP-discuss   that   is.appropiate
           ɲide   lu   eriɲa   ɲesapana,   itasapanio.
           children   who   are.not.yet   not.initiated be.initiated
           'When it is wanted (= when the leaders want) to initiate people, the generation-set leaders begin, they meet, they discuss that it is alright to initiate the children (= filial generation) who have not yet been initiated.'

       S2 **Ku**-wudakisi̱   nai   ɲituɲa lu   ecamito ɲasapana̱   waapei,
           DEP-gather   then   people who   want   initiation   one.place
           ɲikilyoko̱   ka   ɲide   luuciki̱, **ta**-ɲama ɲikorae kode   ɲemoɲo̱.
           men   and   children small   DEP-eat rams   or   ox
           'The people who want to be initiated gather in one place, the men and the children [of the new set], they eat goats or an ox.'

       S3 Ɲarumworete̱   ɲuna,   **to**-loto nai   **to**-pero   naperiti̱.
           end   this   DEP-go then   DEP-sleep in.sleeping.ground
           '[After] the end of that they then go to sleep in the [separate] sleeping-ground.'

The sentence in example (31) combines the S of the intransitive controlling clause *Abu Ɲakuju̱* 'God came' with a coreferential A of the first chained clause *tolimoki̱ ɲikaɲiti̱* 'he told the bird' with another coreferential A of the second chained clause *tem* 'he said'. In example (32) in sentence S1 a S is found in the controlling clause *isyawunete mono ɲikaɲaka̱* 'the leaders begin' and this S has the S of the intransitive clause as coreferent and the coreferential A of a transitive clause

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[24] Note that the prefix *To-* in this example is an imperative marker that has the same form as the dependence marker.

kiryama,[25] *totukwo ɲatemarị itemokino* 'they meet, they discuss that it is appropriate …'. Clauses in S2/S3 of example (32) link the S with a co-referential A, with a co-referential S and a co-referential S in *kuwudakisị nai ŋituŋa ..., taɲama ŋikorae kode ɲemoŋo, ..., toloto nai, topero naperitị* 'the people gather…, they eat goats or an ox, … they go and they sleep in the sleeping-ground'.

4.2 The S/O pivot. The S/O pivot restricts the co-referentiality to either S or O in subsequent clauses. The S/O pivot linkage in Toposa is due to passive constructions that have the S constituent construction of the intransitive passive clause marked as accusative, like the object marking of a transitive clause (as also in most Southern Nilotic languages). Consider the following:

(33)   a.   È-kèr-é-tè   ŋá-àtùk.
            3P-run-IMP-PL   F/PL-cow/NOM
            'The cows are running.'

        b.   Ì-dés-ì   ɲé-kílè   ŋá-átûk.
            3P-beat-IMP   M/SG-man/NOM   F/PL-cows/ACC
            'The man is beating the cows.'

        c.   Ì -dés-ít-àè   ŋá-átûk.[26]
            3P-beat-IMP-PAS   F/PL-cows/ACC
            'The cows are being beaten or somebody beats the cows.[27]'

      All these constructions are impersonal passive constructions. In (33c) the nominative tone marking which would be HLL for *ŋáàtùk* 'cows' as in (33a) would be expected, rather, it bears the accusative tone marking HHF *ŋáátûk* as in (33b).[28] In other words, in Toposa the S of the intransitive impersonal constructions bears the accusative tone marking and it is morphologically marked in the same way as the object of the transitive clause (Schröder 2008: 58-59). The impersonal passive construction in some Eastern Nilotic languages (Toposa, Turkana and Maasai) and Southern Nilotic languages (Tugen, Kipsigis, Nandi etc.) incited debate whether this construction is a real passive construction, or an impersonal third person construction (Schröder 2015b). If the latter view is accepted, (33c) would best be translated as 'somebody beats the cows'. Irrespective of how the construction is interpreted, the single lexical argument of the impersonal construction renders accusative case marking and constrains the occurrence to either an S or another O in conjoined sentences, see the following example taken from M. Schröder (2010: 6):

(34)   ... **ki**-yooliwun-oe   nai   ŋituŋa, **ki**-bitibitiunị   kopọ,   ŋaberụ
            DEP-let-down-PAS   so   people DEP-let.themselves   down,   women
            ka   ŋide   tya   ŋikecekilyokọ.
            and   children and   husband-theirs
            'The people were let down, they let themselves down, the women and children and
            their husbands.'

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[25] Note that in Toposa the verb *kiryama* 'meet' is intransitive: *kiryama ka ɲikoku* 'he met with [the] child'.

[26] Take note of the personal pronoun marker *i* in (28b) and (28c). The *i* - is the same for the third person singular and plural. Regarding passive: Toposa has an impersonal construction marked by passive suffixes *-o ~ -ae ~ -oe*.

[27] The difference between the person agreement third person plural prefix *e-* of examples (33a) and the *i-* of (33c) is due to different verb classes. The *i-* occurs with KI-class verbs and the *e-* with TO-class verbs.

[28] Note that the accusative tone pattern of *ŋáátûk* 'cows' is HHF only before pause and HHL (*ŋáátùk)* elsewhere.

In (34) the O *ŋituŋa 'people'* of the passive clause, coreferences the S of the intransitive reflexive clause *kibitibitiuni* 'they let themselves down'.

See another example where the S/O pivot constraint contributes to the disambiguation of meaning (data taken from M. Schröder 2010: 8):

(35) S1 **To**-limokisi̲ nai   Ŋimoru̲ talokaatekece̲,   **t**emasi,
          DEP-tell   then   Stones   brothers.theirs   DEP:say
          "Kapesi   ta-aŋa   ŋibarene̲   kana   wiye̲."
           IV-go   DEP-look   cattle   in   cattle-camps
          'Those Stones [generation-set] said to their brothers, "Go and look after the cattle in the cattle-camps!"'

      S2 **Ki**-det-ae   ka   ŋalita,   **ki**-reŋe-e,   **t**emar-ae ...
          DEP-beat-PAS   with   sticks   DEP-chase-PAS   DEP:say-PAS
          'They were beaten with sticks, and were chased, and it was said ...

In (35) the common O *talokaatekece̲* 'their brothers' coreferences another O in S2 *Kidetae ka ŋalita* 'they were beaten with sticks', and another O in another impersonal clause *kireŋee* 'they were chased'. The underlying S/O pivot contributes to disambiguate the coreferentiality between 'they' in S2. Because of the S/O pivot in passive clauses 'they' coreferences to 'the brothers' and not 'the stones'. If the S/A pivot would be applied it would be not clear whether the subject *Ŋimoru̲* 'the stones' or the object *talokaatekece̲* 'their brothers', introduced in S1 as A and O, are coreferenced in S2 as the ones that get beaten.

However, in other constructions, where the impersonal does not occur, the S/O pivot must also apply. As the constraint requires, in such a case the S of an intransitive clause or the O of another transitive clause have to be coreferenced, as the following example shows (taken from M. Schröder 2010: 6):

(36) **To**-woyiu   nai   Napurukucu   ŋaputu̲   natikaanikani̲,   **to-**woi[29]   loowoi.
      DEP-twisted   so   Napurukucu   tendon-string   which.strong   DEP-long   very
      'So Napurukucu twisted a strong tendon-string, it was very long.'

In example (36) the O of the transitive clause *ŋaputu̲ natikaanikani̲* 'a very strong tendon-string' is the common argument between the two clauses and it is coreferential with the S of the descriptive clause *towoi loowoi* 'it was very long'.

Another construction that demonstrates this S/O pivot is the following example (taken from M. Schröder 2010: 15):

(37) ... **ku**-wara   Lokoliŋiro   ka   ŋikeetuŋa   ŋadokari̲ loboto̲,   **to-**twonikini̲.[30]
       DEP-look   Lokoliŋiro   and   people.his   climbing to.camp   DEP-difficult
      'Lokolingiro and his people searched [where] to climb to the camp, [but] it was difficult.'

In example (37) the S of the descriptive clause *totwonikini̲* 'it was difficult' references the object *ŋadokari̲ loboto̲* 'the climbing to the camp'. [31]

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[29] Note that *towoi* 'it was long' is a stative verb.
[30] Note that the verb *totwoniki̲ni* is also a stative verb.
[31] In a S/A pivot system as in English the two sentences had syntactically to be changed into the following constructions: the second conjoined clause would have to change into a relative clause like 'Lokolingiro and his people looked [where] to climb to the camp, [but] which was difficult'; or the subject would have to be repeated; the clause could not just be conjoined as in 'Lokolingiro and his people looked [where] to climb to the camp, [but] this climbing was difficult.'

5. Discourse structuring

If a language employs clause-chaining as a discourse function, this has serious implications for the overall discourse structuring, as we shall see in the following.

One question that arises is what principles govern the formation of chains, i.e. what syntactic or semantic factors may cause clause chains to terminate and new ones to begin. Dooley offers several possible factors (2010:14-15): causal event groupings, discourse units like a paragraph or an episode, topic chains, or any combination of the above.

In all three genres I have considered above, the length of clause chains is discourse-related, in that each chain spans a whole narrative unit. The clause chain breaks when a new paragraph starts, usually marked by the verb *abu* 'he came' whenever it has a discourse function, or by temporal clauses with *na* or *ani* 'when, whenever'. The first example is the same as S2 in example (8) above. This is the beginning of a long chain:

(38) Abu Ŋakuju̱,   **to**-limoki̱   ɲikaɲiti̱ nitikawosoni̱   nibe   Napurukucu,
      came God,   DEP-told   bird   very.clever   who.called Napurukucu
      tem,   "To-woyiu   ɲawuno, kotere   ki-yooliyorotori̱ ɲ̩ituŋa kopo̱."
      DEP:said IV-twist   rope   in.order.to   IV-take   people down
      'God came, he told a very clever bird whose name was called Napurukucu (= Orange Starling), he said, "Twist a rope in order to take people down."'

The paragraph consists of eight chained clauses, as shown in (9), and closes before the next paragraph opens with *ani ebaasi ŋurwa apana uni* 'when it was almost three days':

(39) Ani   e-baa-si   ŋurwa apana uni,   **ku**-buŋ-akini̱
      when   3PP-say:IMP:PL days up.to three DEP-eager-BEN
      ɲaberu na   a-pot-i …
      woman   who   3P-be.heavy-IMP
      'When it was almost three days, a woman that was pregnant was eager to...'

The next example from a procedural text is the same as S2 in (10):

(40) Na   i-dowun-o   ɲaberu, **to**-tubw-oe   ɲapusiti̱ ka   ɲikoku
      when   3P-give-birth-RFL   woman   DEP-cut.off-PAS umbilical of   child
      ka   ɲebaɲete̱,   **ki**-lomakin-ae   nai   ɲaberu kai.
      with   blade   DEP-put.into-PAS   then   woman house
      'When a woman gives birth, the umbilical cord of the child is cut with a blade. The woman is put into a house.'

The childbirth is the procedure in this paragraph. The controlling sentence *Na idowuno ɲaberu* 'when a woman gives birth' uses the verb in the present tense, and thus determines tense and aspect of the following five clauses, where all verbs are marked by the *to-/ki-* prefixes. The chain breaks when the next paragraph starts with *na* 'when':

(41) Na   e-lom-akin-ere   ɲaberu kai,   ɲ-e-lom-ar-e-te
      when   3P-enter-BEN-PAS   woman house NEG-3P-enter-ABL-IMP-PL
      ŋikilyoko̱   cut,   ɲaberu̱ aboni̱ e-lom-ar-e-te,
      men   at.all   women alone 3P-enter-ABL-IMP-PL
      ku-kwan-akin-ete   ɲayeto.
      DEP-cook-BEN-SIM   gruel

'When the woman is brought into the hut, the men never enter at all, only women enter, cooking gruel.'

The following expository sentence is the same as S1 in (12) above. The chain starts as follows:

(42)   Seke̲   na   ecamitere   ɲakitasapana̲   ɲituɲa,   isyawunete   mono
       So   when   is.wanted   to.initiate   people,   begin   DM
       ɲikaɲaka̲,   **ki**-ryama,   **to**-tukwo   ɲatemari̲   itemokino
       leaders   DEP-meet   DEP-discuss   that   is.appropiate
       ɲide   lu   eriɲa   ɲesapana,   itasapanio.
       children   who   are.not.yet   not.initiated   be.initiated
       'When it is wanted (= when the leaders want) to initiate people, the generation-set leaders
       begin, they meet, they discuss that it is alright to initiate the children (= filial generation)
       who have not yet been initiated....'

The chain that begins with *kiryama* 'they meet' consists of twelve chained clauses (as shown in (12)), which, together with the controlling clause, constitute one paragraph. The chain ends when the next paragraph is introduced through *ani iwalari* 'when it dawns':

(43)   Ani   i-walari,   **ki**-ryewutu̲   ɲaberu̲   kece̲   tya   taityekece̲
       When   3P-dawn,   DEP-grind   wives   their   and   their.mothers
       ka   ɲide   ɲatapae.
       of   children   porridges
       'When it dawns, the wives and the mothers of the children grind [and cook and bring]
       [calabashes with] porridge.'

6. Conclusion

This paper discussed the phenomenon of clause-chaining, and how clause-chained medial verb forms determine both sentence structure and the overall organization of discourse in Toposa.

Like other clause-chaining languages, Toposa follows the clause-chaining model and forms chains of clauses which are dependent on a controlling clause. All verbs in such chains are marked with a special dependency marker *to-ki-* which signals that the tense and aspect of these verbs are the same as those in the controlling clause, i.e. there is operator dependency. The chained clauses typically contain foregrounded information in narrative, procedural and descriptive-expository texts, whereas background information is typically encoded in clauses with inflected verbs. Unlike most other clause-chaining languages, which are SOV, Toposa is VSO/VO, therefore the chained clauses always follow the controlling clause, and are thus post-nuclear.

Moreover, I have shown that medial verbs do not occur in subordinative or negated clauses, with the exception of means-result and purpose clauses. Coordinated contrast clauses either occur with a medial verb, when emphasizing foregrounded information, or with a finite verb, when they contain background information.

In Toposa discourse, clause chains determine the length of a paragraph. However, it happens that clauses can be inserted into a chain without disrupting the chain (skipping). These clauses are all subordinative clauses with finite verb that provide background information or metarepresentations. It was pointed out that in terms of language production the clause skipping follows the principle of economy forced by pragmatic cognitive routines that pick out the foreground or background information through the presence and absence of the clause-chaining marker to/ki.

The mechanism of clause-chaining also appears in isolated coordinated sentence constructions in that the *to-/ki-* dependency markers occur on verbs in the dependent clause. In such cases, however, the marking does not necessarily signal foregrounded information.

The Toposa non-finite verb forms are motivating the structuring of narrative, procedural and expository discourse. The discourse structure follows the clause-chaining model that do not allow two independent clauses succeed each other and the clauses that do not carry the clause chaining marker are integrated into the clause chaining system though clause skipping or opening a new paragraph for the overall structuring of the discourse.

Abbreviations

1P/2P/3P	first/second/third person
1PL/3PL/1SG	first/third person plural, first person singular
ALL	allative
D/SG	diminutive singular
DEP	dependence marker
DER	derivational affix
DM	discourse marker
DS	different subject
DUR	durative
F/SG F/PL	feminine singular/plural
IMP	imperfect
INT	intensive
INF	infinitive
IV	imperative
ACC	accusative
NOM	nominative
PAS	passive
PER	perfective
M/SG M/PL	masculine singular/plural
PL	plural
POSS	possessive
PST	past
SIM	simultaneous
SS	same subject
T	tense
YESTP	yesterday's past

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