http://dx.doi.org/10.4314/gjl.v10i1.13

A PRAGMATIC VIEW ON CLAUSE LINKAGES IN TOPOSA, AN EASTERN NILOTIC LANGUAGE OF SOUTH SUDAN

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Abstract

Toposa, an Eastern Nilotic language of South Sudan, has been identified as a clause-chaining language (Schröder 2013, Schröder 2020), because it does not allow two independent clauses following each other, but the fundamental sentence structure is that an independent clause is followed by a chained clause. The current paper claims that this clause-chaining constraint creates new syntactic and semantic functions of independent and subordinative clauses, whereby one syntactic function is clause-skipping that caters for adverbial clauses in the model. The structure of independent clause and chained clause yields semantically a distinction of foreground and background information. The foreground information is carried by the finite and the background information by the non-finite clauses. The interpretation of the foreground and background information is explained as cognitive pragmatic routines that guide the hearer to understand the foreground information as main events and the background information as explanations to the foreground information. The background information captured in the adverbial clauses provide explanations for time, reason-result, means-result, purpose, conditions and contrast. The pragmatic analysis is based on the insights of Relevance theory (Sperber and Wilson 1995).

Keywords: clause-chaining, clause-chaining model, procedural information, foreground information, background information, pragmatic routines

1. Introduction

Relevance Theory, a cognitive-pragmatic theory, distinguishes between conceptual and procedural meaning and identified pragmatic connectors and conjunctions as carrying procedural instructions for interpretation (Wilson 2011). Toposa, an Eastern-Nilotic

language of South Sudan, has been classified as a clause-chaining language (Schröder 2013, in more details Schröder 2020).

Toposa has a limited number of conjunctions and connectors for clause linkages. This paper will demonstrate that one reason for the limited number of conjunctions and connectors is the fact that Toposa follows a clause-chaining discourse model with the underlying syntactic constraint that too independent clauses are disallowed (Schröder 2020). This model creates a novel division between independent and subordinative clauses and the semantic interpretation of conjunctions and connectors.

The paper will demonstrate that the interplay of the chaining effect and the usage of various multifunctional conjunctions and pragmatic connectors are best explained as procedural constraints that guide the interpretation of utterances in relation to the principles of Relevance Theory (Sperber and Wilson 1995).

In the different subsections the following ideas are discussed: basic assumptions of Relevance Theory, the clause-chaining model, the chained-subordinative clause-linkage, clause-skipping, the pragmatic interpretation of the foreground and background distinction and the procedural interpretation of the clause-chaining model.

2. Basic Assumptions of Relevance Theory

Relevance theory (Sperber and Wilson 1995) offers a pragmatic cognitive view on the interpretation of utterances. Relevance theory relies on two principles, the *Cognitive Principle of Relevance* and the *Communicative Principle of Relevance*. The Cognitive Principle of Relevance points to the cognitive perspective of the interpretation of utterances. It claims that human cognition is guided by an innate property that searches to interpret utterances with little processing efforts but with the most positive cognitive effects. Cognitive effects modify existing knowledge and beliefs through three stages; they either contradict and eliminate previous assumptions, strengthen existing ones, and by so doing they build new knowledge from existing assumptions. Thus, the *Cognitive Principles of Relevance* technically is a device that balances the outcome of cognitive effects and processing effort.

The cognitive perspective of the interpretation of utterances also has a communicative aspect captured in the *Communicative Principles of Relevance*. In the Relevance Theory communication is understood as ostensive communication. Ostensive stimuli (an utterance, a gesture, a thought etc.) provokes the expectation that those stimuli are optimally relevant according to the innate property of maximization of relevance and thus the stimuli attract the audience attention. The communication

between addressee and audience is successful if the *informative intention* of the speaker has been encoded and the audience has inferred the meaning of the message and has developed positive effects with it.

The *informative intention* and *communicative intention* of a speaker's utterance is guided by the relevance-theoretic-comprehension heuristic searching for the most cost-effective interpretation of the ostensive stimuli (Wilson and Sperber 2004: 613):

1. Follow a path of least effort in computing cognitive effects: Test interpretive hypotheses (disambiguation, reference resolutions, implicatures, etc.) in order of accessibility…
2. Stop when your expectations of relevance are satisfied.

The comprehension procedure captures an intrigue online process of inferential processing where interpretive hypotheses are tested and adjusted accessing the cognitive environment of the interlocutors in respect to the explicit and implicit information and contextual implications provided in the utterance and guided by the search for the most beneficial cognitive effect balanced with little processing effort. When the audience realises that it has reached a sufficient interpretation of the utterance simply put if the hearer has understood the *informative* and *communicative* intention of the speaker then the inferential processing stops (for a closer look into the basic principles of Relevance Theory, see Sperber and Wilson 1995, Wilson and Sperber 2014: 607-632).

In Relevance Theory a distinction between procedural and conceptual meaning is drawn (Blakemore 1987; Hall 2007; Wilson 2011; Iten 2005; Unger 2011). Conceptual expressions encode conceptual content manifested though the encyclopedic knowledge in the mind. Procedural meaning on the other hand constrains the inference process in the comprehension procedure. This paper will explain the pragmatic inferential nature of clause-linkages as procedures that constrain the interpretation of utterances. The paper is based on previous research Schröder (2013) where the pragmatics of clause-chaining was captured and Schröder (2020) where the clause-chaining features of Toposa were classified as a systematic model, the clause-chaining model. This paper is based on the assumption that in a clause-chaining model, the interplay of the clause-chaining features and the clause linkages of the adverbial clauses present a novel interrelation and thus a challenge for interpretation that are addressed in this paper. To begin with the concepts of the clause-chaining model are outlined in the next session.

3. Clause-chaining model

In terms of clause linkages, Longacre (1996: 285-286) made a distinction between two models the 'coranking model' and the 'clause-chaining model'. The coranking model is based on a system of coordinative and independent-subordinative sentence constructions. It is organized like English and many Indo-European languages where the conjunctions show semantic differences of time, condition, concession, purpose, reason among others and these adverbial clauses are then in a dependent-subordinative relationship to the independent clauses. The chaining model however organizes the clause distinctions according to the dominate chaining effect that requires that two independent clauses are not allowed to follow each other. In this model the finite and non-finite clauses determine the system. Toposa employs a clause-chaining model as Schröder first discovered (2013) and further developed in Schröder (2020). In the clause-chaining model the default clauses are the chained, non-finite clauses (called *chained clause* from now on) that are following finite clauses. The chained clause is a non-finite clause that indicates morpho-syntactic dependency on the finite clause or controlling clause. In Toposa this morpho-syntactic dependency is marked by the *to/ki* prefixes heading the non-finite clauses. A clause-chaining model has two interrelated organizing principles the formal structural of the finite-chained clause linkages and a semantic one the distinction of foreground and background information. The formal structure of the model will be explained first.

3.1 The finite-chained clause linkage

In a clause-chaining model, the default clause is the chained clause. The scholarly discussion about chained clauses focus on its nature, i.e., on the question whether the non-finite clause is coordinative or subordinative in nature. Some scholars take the position that the non-finite clause is like a coordinative clause (Roberts 1997: 183, also Haspelmath 1995: 12-17). However, in Toposa, the non-finite clause shows morpho-syntactic dependency on the finite clause through the prefix *to/ki*[1]. The dependency is of such a kind that the non-finite clause picks up the tense/aspect inflection from the finite clause. As this morpho-syntactic property of the non-finite clause exhibits morpho-syntactic dependency, some scholars call it "quasi-coordinate" (Haiman & Munro 1983: xii, Stirling 1993: 15). Van Valin & LaPolla (1997: 455) argue that clauses that show operator dependence are a hybrid between coordination and

[1] Henceforth this marker is glossed as DEP indicating the morpho-syntactic dependency of the sentence to the main clause.

subordination and call this clause linkage 'cosubordination'. They argue that semantically it has coordinative effects, since it is assertive, but morpho-syntactically it is dependent. I shall adopt this view that in Toposa the chained clauses have semi-independent or cosubordinative status because they are coordinating independent state of affairs, but they are morpho-syntactically dependent on the finite clause in terms of tense, aspect and mood (TAM).[2]

The following examples show the finite-chained clause linkage of the clause-chaining model. The first example represents the opening of a narrative story (taken from Schröder 2013: 27):

(1) **Bee koloŋo nuwan, to-lot-o ɲebu ka kwee**
it.is.said long.ago very DEP-go-PL hyena and jackal
ɲa-ki-rap ŋadesi moogwa, to-ryam-u-tu
INF-DER[3]-search some food DEP-find-ALL-PL
ɲa-ate ka ɲi-tooni.[4]
cow of person
'It is said that long long ago, Hyena and Jackal went to search for some food, they found a cow of someone.'

In the above clause the tense/aspect dependency is captured through the dependency marker *to.* The clause sets the time relation in the narrative into the past tense through the formula *bee* 'it is said' and the adverbial *koloŋo nuwan '*long ago' in the finite clause. The following clauses are chained to the main independent clause through the markers *to-* in *toloto* 'they went' and in *toryamutu* 'they found'. The non-chained marking of Toposa verb inflection would be:

[2] An anonymous reviewer pointed out that the properties of obligatory operator sharing was challenged by Foley (2010) and Bickel (2003) who showed for a Tibeto-Burman language Belhare and Nepali that the operator sharing is optional (cited in Van Valin 2005: 7-8). Foley (2010) questions the concept of cosubordination altogether. However, he presents data from question sentences among others. So his argument is that cosubordination can be optional in Papuan language when it cooccurs with illocutionary force. My argument however is that the clause-chained clause is fundamental for the clause-chaining model, see the discussion above.

[3] The gloss DER indicates the nominal derivation marker.

[4] Underlined vowels at the end of words indicate voiceless vowels.

(2) a. **Ì-múj-ì ɲákírîŋ.**
3SG-eat-PRS:IPFV meat
'He is eating meat.'

b. **È-mùj-í ɲá-kírîŋ.**
3SG-eat-PST:IPFV meat
'He was eating meat.'

c. **É-múj-îti ɲákírîŋ.**
1SG-eat-PRS:PFV meat
'I have eaten meat.'

The difference between the clause chained (1) and the tense/aspect inflection of example (2) is that the latter indicates the difference between the aspects imperfective *–ì* and perfective *–îti*, furthermore tone marks the difference between present and past tense, see that in example (2b) the tone changes from LHL to LLH, additionally an underlying *a-* past marker merges with the person prefix *i-* to *e-*.[5] The direction of the chain is postnuclear. If the chained clauses precede the main clauses as in SOV languages, the direction of the chain is prenuclear, found in many Ethiopian languages (see Völlmin et al. 2007).

The next sentence construction falls into the same category. The sentence construction consists of a controlling clause and one or two chained clauses:

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

(4) **E-bariti ɲekilye, to-yar-ite.**
3SG-rich man DEP-live-SIM
'The man is rich and (furthermore) successful.'

Note in (3) the onset *abu* 'he came' has to occur to start the clause chained construction off with a finite verb. In example (4) the suffix *-ite* indicates simultaneity. The second clause of example (3) can also be understood as a result of the first statement 'he felt

[5] For a detailed description between the non-chained and chained inflection of Toposa the reader is referred to (Schröder 2015: 234-235).

much happier'. In both examples the chained 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. In a non-chained clause linkage model this linkage is known as additive-coordinative clause linkage.

All clauses that express time relations carry the tense-aspect marking and are finite clauses. They are introduced with *ani* 'when' and *na* 'at the time', 'whenever', see the following examples:

(5) **Na e-yakatare ŋituŋa kidyaama, …**
when 3PL-were people above
'When there were people in heaven*, …*'

Here the adverbial clause opens a long chain at the beginning of a story. The temporal clause is followed by the chained verb *tatamu ɲakuju* (God thought), see another example with *ani*…….:

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

Ani frequently indicates the beginning of a new paragraph. The clause chain stops before the adverbial clause with *ani* and at the same time starts a new chain with *kubuŋakini ɲaberu* 'a woman was eager'. Adverbial clauses are often used for the structuring of texts, they open new paragraphs in narrative texts for example.

3.2 Chained-chained clause linkages with hybrid clauses

In the clause-chaining model of Toposa, the adverbial clauses of purpose and means-result are integrated into the chains. These clauses start with a conjunction and indicated a semantic dependent clause linkage to a non-finite clause captured through the conjunction. The following clauses with the meaning of purpose and means-results

are such clauses, they are introduced through the polysemous[6] conjunction *kotere* 'in order to'.

(7) … **ta-tyakae nai kalo kidiŋi**
DEP-divide DIS[7] from middle
kotere ku-waae ɲepeewae
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 a semantic means-result relationship, see the following example:

(8) **To-sew-utu ɲelapa kode ɲekaru,**
DEP-choose.ALL/PL month or year
kotere ku-war-un-eta ŋituŋa ŋiboro ka ɲakidamadama.
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.'

Myhill & Hibiya rejected the idea that subordination clauses headed by conjunctions could be part of the chain in their clause-chaining definition (1988: 363). They specifically state that clauses headed by conjunctions cannot constitute chains. This statement was falsified through example (7) and (8) 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 contrast relationship is expressed by the conjunction *tarai* 'but'. It can also be inserted into the string of chained clauses and occurs with a chained verb:

(9) **Ki-bi Lobela Lolemumoe, tarai to-pege Lolemumoe jiki.**
DEP-ask Lobela Lolemumoe but DEP-deny Lolemumoe strictly
'Lobela interrogated Lolemumoe, but Lolemumoe denied [it] strictly.'

[6] The conjunction 'kotere' is polysemous because it expresses a reason-result relationship with 'because', a means-result relationship with 'so that' and a purpose relationship with 'in order to'.

[7] The gloss DIS indicates a discourse marker.

The last three clauses create a hybrid in the clause-chaining model. They do not fit into the definition of cosubordination that states that the chained clauses are semantically independent but morpho-syntactic dependent. Chained clauses like (7), (8) and (9) that are semantically and morpho-syntactic dependent constitute a hybrid between a chained clause because of the morpho-syntactic dependency feature and a subodinative clause because of the semantic dependency.

3.3 Clause skipping

The second important clause linkage in the clause-chaining model is clause skipping. Clause-skipping is an intriguing phenomenon in the discourse structuring of 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. Stirling refers to this form of insertion as "clause skipping" (Stirling 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 that does not break the chain (taken from M. Schröder 2010: 48):

(10) **Ani e-jeketa ŋakile ka ɲaate, ta-ratar-ata Kwee**
When 3SG-become.good milk of cow DEP-cheat:.ABL.INS jackal
Ɲebu, to-lepuuni ca ɲaate, to-ŋoba ŋakile,
hyena DEP-milk:HAB:SIM DIS cow DEP-drink.up milk
ani i-doŋ-i ɲegoototo, to-lemu̱ ŋacoto,
when 3SG-remain-IPFV:PAST foam DEP-take urine
ki-yata-kinea …
DEP-add-BEN-INS
'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 sentence structure continues with the *to-/ki-* forms, which are still dependent on the first controlling clause of the string of clauses, which is a finite-subordinative clause of time discussed in example (6) above.

The adverbial clause expressed by *tanị* '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 relevance of the distinction between foreground and background information in the chained model will be explained in the next section. The following example shows the occurrence of *tanị* in the middle of a clause chain:

(11) **Ki-syautụ**[8] **nai ikesị ɲe-kere, to-sukwo kaneni**
DEP-begin DIS they INF-race DEP-runPL from.there
tanị e-naŋ-i Ɲebu nikalonanị, to-ɲara Ɲebu Ɲakidodokọ.
until 3SG-reach-IPFV 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'.

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 inside the chain, as the following example shows, the clause provides background information:

(12) …**ani e-cam-itị iŋesị ɲa-ki-marạ,**
If 3SG-want-PFV he INF-DER-count
ki-te-gyelana ka ŋateketa kode ka ŋikalea kecẹ.
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,[9] so the verb in the chained 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*.

[8] If sentences are starting with chained verbs, they are taken out of the chain for the purpose to show certain linguistics features. For example (11) demonstrates that the adverbial clause starting with *tanị* 'until' is used with an inflected verb.

[9] 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'.

Clauses with the conjunction *kotere* can be used with both, inflected and chained verbs. In case *kotere* occurs with inflected verbs its meaning is 'because' as seen in the following example:

(13) … **ku-wokori, ki-jirakini nakipi, kotere e-kuryan-iti daŋ Ɲepeooto.**
DEP-run DEP-slip water because 3SG-afraid-PFV 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 chained verbs and is often placed at the end of a sentence construction. The occurrence of the inflected 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 (8) and (9).

It is not uncommon to have negation excluded from the clause-chaining devices i.e., negation clauses carry the tense/aspect marking of the non-chained clauses, because they indicate background information (Longacre & Hwang 2012: 185), see the following example:

(14) **Ku-cwa-ki ŋituŋa ɲaaɲuni ɲaŋololo ŋina,**
DEP-send-BEN people to.find river that
tarai ɲ-e-dolo ŋituŋa ŋulu, ta-tamu nabo Lokoliŋiro …
but NEG-3SG-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 …'

In example (14) the negative clause *tarai ɲedolo ŋituŋa ŋulu* 'but these people did not reach [it]' does not interrupt the chain that follows with the sentence *tatamu nabo Lokoliŋiro* 'also, Lokolingiro thought'. Negative clauses are typically regarded as background information and categorized as collateral information (Grimes 1975, Longacre & Hwang 2012:18).

Adverbial clauses of manner are always regarded as background information and occur with an inflected verb, as in the following example, this clause is only used in the complement position of clauses:

(15) ... **ki-boyii ca, ta-aɲu Kwee ɲatemari e-twan-iti itekeŋe.**
DEP-sit DIS DEP-see Jackal that 3SG-died-PFV mother-his
'He (= Jackal) sat (= waited), Jackal saw that his mother had died.'

The *e-twaniti itekeŋe* 'his mother died' clarifies what has happened to the mother of Jackal in the story, it also does not interrupt the chain.

If the contrast relationship *tarai* is used with an inflected verb, the clause is inserted into the string of chained clauses without breaking the chain, The *tarai* clause describes an anterior event and represents background information:

(16) **To-ɲara ɲekasukowutu ŋaberu, tarai a-potu**
DEP-call elder wives but 3PL-come-PST/PFV
ŋaberu daani to-jotoorosi.
women all DEP-sleep
'The old man called [his] wives, but all the women had come [discourse] [and] had fallen asleep.'

Chains can also have metarepresentations inserted. Metarepresentations constitute thoughts about known customs, sayings or citations. They are 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 are taken place. In the following example the metarepresentation refers to a custom that regulates the burying of the placenta:

(17) **To-mudarae ɲaŋasepe, kalo taleo ka ŋicye**,
DEP-carry.out placenta, according customs of some
e-nukwakino ɲaŋasepe nakutuku ka ɲakai
3SG-bury-PASS placenta at.entrance of house
kode ŋicye to-nukwa-kina nakeju ka ɲeŋoomo.
or others DEP-bury-PASS 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.'

In the succession of the foregrounded processes of childbirth, a statement about the disposal of the placenta: *kalo taleo ka ŋicye, enukwakino ɲaŋasepe nakutuku ka ɲakai* 'according to the customs of some, the placenta is buried at the entrance of the house'

is inserted. The reason why this embedded explanation is not marked with the 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 clear 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 but also in procedural and expository texts (Schröder 2020). The next question deals with the semantics of the clause chained model.

4. The semantics of the clause-chaining model: The foreground-background distinction

One other phenomenon for clause-chaining languages is that they organize the discourse information of foreground and background around the syntactic clause division of finite versus non-finite clauses, where the chained clauses represent the foreground and the non-chained clauses the background information found in all genre of texts (for a detailed description of foreground and background information in clause-chaining languages the reader is referred to Schröder 2013). Let us consider the beginning of a narrative (taken from M. Schröder 2010: 6):

(18) S1 **Bee koloŋo nuwani, na e-yakatare ŋituŋa kidyaama,**
It.is.said time long.ago when 3PL-was people in.heaven
ta-tamu Ɲakuju ɲayeawuni ikesi kopo.
DEP-thought God to.bring them down
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
DEP:said IMP-twist rope in.order.to DEP-take
ŋituŋa kopo."
people down
S3 **To-woyiu nai Napurukucu ɲaputu natikaanikani, to-woi**
DEP-twisted so Napurukucu tendon-string which.strong DEP-long
loowoi.
very

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
S5 **To-doka ŋituŋa ŋurwa ŋiaarei, juutawar, kiiya kuwala.**
DEP-climbed.down people days two dusk dawn
'1 It is said [that] long ago, when there were people in heaven, God planned to bring them down [to earth]. 2 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. 3 So Napurukucu twisted a strong tendon-string, it was very long. 4 The people were let down, they let themselves down, the women and children and their husbands. 5 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 eyakatare ŋituŋa kidyaama* 'It is said long ago, when people were in heaven' introduces the scene in the narrative, the main verb bee 'it is said' is a fused form of the verb bala 'to say' which now represents an opening formula. The clause *abu Ŋakuju* 'God came' in (S2) marks the person agreement prefix *a-* of *abu* 'he came'; it fuses the past tense marker *a-* and begins of a long chain. The succeeding events all carrying the *to-/ki-* markers, are set in the past, transferring the past marker of the initial clause into the entire chain (taken from Schröder 2013: 33):

(19)

ta-tamu	he thought
to-limoki ŋikaŋiti	he told the bird
tem[10]	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-bitibitiuni kopo	they (the people) let themselves down
to-doka ŋituŋa ŋurwa ŋiaarei	the people climbed down for two days

If on the other hand a verb marks the normal tense-aspect markers as demonstrated with the examples (2a-b-c) and if no *to-/ki-* marking occurs, the hearer understands that that information deals not with the sequential occurrence of the events but highlights clarification, explanations and comments that support the salient information of the

[10] In this verb, the dependent marker *t-* is fused with the root.

narrative representing background information. In this way the relative clause (S2) *nibe Napurukucu* 'which was called Napurukucu', which describes one of the main characters of the story, is not foregrounded but backgrounded.

5. Procedural Interpretation of the clause chained model

The foreground-background distinction in the clause-chaining model was previously interpreted as procedural interpretation of pragmatic routines (Schröder 2013), which is briefly repeated here.

5.1 Procedural instruction of the foreground information

Referring back to example (18) the following procedural interpretation holds: Discourse analysis reveals that narratives capture successions of events that happen in the past, so that hearers after processing the information understand and expect that the events indicated through the *to/ki* marker are following a sequential order as demonstrated in the above string of events in example (19). On the assumption that speaker and hearer balance the cost-benefit scale by taking a path of least effort, the prefixes *to-/ki-* will guide the hearer to expect that the *to/ki* marked events progress the narrative. Thus, the events marked in this way will automatically have the cognitive effects that the foreground information of the narrative is talked about as shown in (19). On the other hand, if a verb is not marked by *to/ki* but by the normal tense/aspect markers as discussed in examples (2) and (S2) of example (18), the hearer realizes that such an information does not point to the sequential order of events, but this kind of information clarifies, explains or supports the sequence of events and is regarded as backgrounded. In this way the relative clause (S2) *nibe Napurukucu* 'which is called Napurukucu', describing one of the main characters of the story, is backgrounded as the verb indicates a finite form and not the non-finite form *to/ki*. The hearer would pick up the instructions of understanding the *to/ki* information as the main events. How the background information can be finetuned in the interpretation process according to the occurrence of the conjunctions will be discussed in the sections below.

In the following section I will discuss that the processing of the foreground and background information through the respective verb markers develops into automatic processes that develop into pragmatic routines.

Vega Moreno (2007) draws an interesting parallel between creative pragmatic inferences and standardization of pragmatic processes that develop into what she calls *pragmatic routines*.

Relating to the interrelationship between creative pragmatic inferencing and pragmatic routines the automatic processing of *to/ki* as foreground information develops into pragmatic routines so that the hearer directly accesses sentences with *to/ki* as procedural instructions to look for the most salient information of the text. The morpho-syntactic *to/ki* marking indicating a grammatical dependency on the verb is automatically accessed as foreground information through the frequency of use, frequent access and inferencing of the same premises, hypotheses and contextual implications.

Those verbs that carry the finite tense/aspect marking suggest another path of inferences: the hearer accesses that information as explanations, clarification or commenting on the salient information and this information is registered in the mind as backgrounded.

As the hearer can identify the finite clauses as background information in the pragmatic routines the respective conjunctions specify now the clarifying, explanation and commenting processes. The next paragraph will deal with the procedural interpretation of the background information.

5.2 Procedural instructions of the background information

As discussed in the previous paragraph the mind through frequent access can develop pragmatic routines of inferences that make the inferencing of information less effortless. The pragmatic routine process for the verbs that carry the tense/aspect marking of the language is that this information provides explanations, comments and clarifications of the foreground information. The clauses with the finite tense marking are thus clauses that constrain the inferences of the background knowledge in regard to time relations, contrast, cause and effect, means-result and purpose. The following paragraphs will demonstrate the constraints on the inference processes with the respective clauses.

5.2.1 Time-relations

Clauses that capture the time relations have conjunctions like *ani, na* ‘when, whenever’ and *kaku* ‘after’. The clause with the conjunction ’when’ and ‘kaku’ will be used to demonstrate the time relationships, see the following example:

(20) **Ani e-jeketa ŋakile ka ɲaate, ta-ratarata Kwee Ɲebu,**
When 3SG-become.good milk of cow DEP-cheat:INT jackal hyena…..
'When the milk of the cow had become good, Jackal cheated [intensive] Hyena…'

In the above example the subordinative time clause is used to open a new chain, it constitutes the beginning of a new paragraph. As the clause does not carry the foreground marker *to/ki* but the regular tense/aspect marking the hearer accesses the information as comments on the foreground information automatically as a routine process. In this case the conjunction triggers the conclusion that in the succession of the events capturing the conflict between hyena and jackal, jackal's next move to cheat hyena started at the point when the milk of the cow was very sweet and drinkable. The hearer accesses the cognitive effects that a new scene for actions has been opened at a time when the milk was ready. The conjunction *kaku* 'after' is also used to open new paragraphs in a text, see the following examples (M. Schröder 2010: 135):

(21) **Kaku ka ŋuna, a-bu nyakoro to-per-ik Kwee ka Nyebu**
After of days 3SG-come hunger DEP-hit-BEN jackal and hyena
'After all that, hunger hit Jackal and Hyena.'

The procedural instructions the hearer accesses are that after a time span, hunger evaded the area. Note that *kaku* 'after' and *ani* 'when' play a role in the overall structuring of a text.

5.2.2 Contrast

The contrast clause can be used with finite and non-finite clauses. The next examples demonstrate the non-finite verb with a contrast clause:

(22) **Ki-daraa nai Nyebu, tarai ikwa ku-luny-ori , Nyebu lokale**
DEP-wait DIS hyena but as soon as DEP-leave-ABL hyena home
To-myedɛ ata Kwee, ki-rika iŋesi nyakuriŋi
DEP-strangle mother of jackal DEP-eat.up he meat
'He (Jackal) waited for Hyena, but as soon as he (Jackal) left the home, Hyena took his place (= went in) in the home, he strangled the mother of Jackal, he ate up the rendered meat.'

Semantic relationships of contrast guide the hearer to the cognitive effects to eliminate previous assumptions guided through *tarai* 'but' and build new ones. In the above example (22) Jackal and Hyena are fighting over meat. They had agreed to share the meat of a cow. So, Jackal waited for Hyena to share the meat. But when Jackal left, Hyena did not honour the agreement, but strangled Jackal's mother and ate up all the meat. The conjunction 'but' signals to the hearer that his assumption about the agreement between Jackal and Hyena has to be eliminated, in fact the hearer builds the new implication that Hyena is cheating Jackal. This contrast clause represents a 'hybrid' in the clause-chaining model. Syntactically it is a chained clause indicating foreground information, however semantically through the conjunction 'but' it guides the hearer to interpret the utterance as an explanation, namely that the previous hold assumption of the agreement between Jackal and Hyena to share the meat does not hold anymore. So, the information in (22) is important for the succession of the events, it provides an explanation. In terms of interpretation the mind will access the information in (22) as backgrounded in spite of the foreground marker *to/ki.* These hybrid clauses break the pragmatic routines and expect the hearer to invest more processing effort into inferences to find the interpretation of the utterance. The hearer is guided by the procedural instruction of the conjunction 'but'. If the *tarai* 'but' clause is used with finite verbs as shown in example (23) the hearer will access it directly as background information:

(23) **To-rem-o ŋituŋa lukaalaka Lobanyete, tarai e-mame nyepei daŋ**
DEP-throw-PL people many Lobanyet but 3SG-be.not one even
a-beiki iŋesi.
3SG-hit-BEN him
'Many people threw their spears [after] Lobanyet, but there was not even one who hit him.'

The information captured in the contrast clause explains why Lobanyet was not hit by a spear, although many spears were thrown at him. The hearer picks up the procedure and eliminates the assumption that Lobanyet would be deadly hurt following the throwing of the spears, as the explanation is given that no spear will hurt him. The hearer inferences the information as background information, as explanation to the event line of the narrative because of the tense and aspect marking.

5.2.3 Cause and effect

The semantic cause-effect clause linkage is expressed with the conjunction *kotere* ‘because’ and the verb in the clause is a finite verb, see the following example:

(24) **Ki-ira-si nayi ŋityaŋi daani nyeruye keŋe,**
DEP-hear-PL DIS animals all scream his
tarai nyi-ŋarakina iŋesi, kotere e-kuryan-it-o ikesi iŋesi.
but NEG-help him because 3SG-fear-PFV-PL they him
‘All the animals heard his screams, but they did not help him, because they were afraid of him.’

The hearer straight away because of the automatic routines choosing a path of less effort, signaled by the clue of the finite verb, accesses the information as background information and is guided through the procedural conjunction ‘reason-result’ ‘because’ to look for an explanation in the on-going events. The background to the utterance is that lion was caught in a trap and the animals heard his scream but did not help him. The clause introduced by *kotere* ‘because’ provides the explanation why the animals did not help lion. All animals usually fear the lion because of his strength and because he is a carnivore.

5.2.4 Purpose clause

The conjunction *kotere* is a multifunctional polysemous conjunction, it is also used for a purpose clause. However, in this example the purpose clause is expressed with the non-finite verb:

(25) **Nabo e-ra-i nyelemata ŋapesuru dir**
Again 3SG-be:IPFV engagement-dance girls really
e-ram-akin-it-ae, kotere ku-umarere
3SG-get-BEN-PFV-PASS in order to DEP-marry-PAS:INS
‘Also, the engagement-dance is really to get girls, in order to marry [them].’

The hearer will be guided by the conjunction not to look for the cause of the action, because the verb is expressed in the non-finite verb form. The non-finite verb form will disambiguate between the meaning of polysemous *kotere* ‘because’, that occurs with the inflected verb form and *kotere* ‘in order to’ with the non-finite verb form. As

mentioned before chained clauses that carry a semantic dependency through a conjunction constitute a hybrid of a grammatically chaining effect and a semantic effect expressed through the conjunction as in the case of example (25). In this hybrid the distinction between foreground and background information is erased. Semantically the hearer will understand the information as background information because it comments on the independent clause, the main events. The semantic pragmatic input guided through the conjunction 'in order to' overrides the formal pragmatic routines triggered by *to/ki*. The hearer has to invest extra processing efforts to find the interpretation of the utterance.

5.2.5 Means-result

The means-result clause linkage can be expressed in two ways. It either uses *kotere* 'so that' or it drops the conjunction completely, see the next example with *kotere:*

(26) **Ki-cwaar-ae ŋituŋa lot-elae daani,**
DEP-send-PASS people LOC-section all
kotere to-limok-isi ŋituŋa ku-uduni na-kidamadama.
so that DEP-tell-BEN-PL people DEP-gather LOC-war dance
'People are sent to all sections, so that they tell the people to gather for the dance.'

The hearer is guided by two clues: the conjunction and the tense of the clause. If it is the non-finite verb form with the dependency marker the hearer expects the information to provide foreground information.[11] The specific semantic link can either be purpose 'in order to' as shown in (25) or means-result 'so that'. So, in order to disambiguate the two possible meanings of *kotere* the hearer has to access more context for disambiguation. At this point it is not obvious what kind of context could help in the disambiguation of the meaning. In both chained clauses with *kotere* (24) and (25) the pragmatic routines that rely on the distinction between the finite and non-finite marking of the verb are broken as these clauses constitute a hybrid of formal morpho-syntactic dependence and semantic dependence. The hearer cannot rely on the pragmatic routine channeled through the *to/ki* routine first but has to access the interpretation of the background through the conjunction *'kotere'*, which either provides the hearer with the information of means-result or purpose.

[11] The hearer knows that the explanation cannot be in form of a reason, as the reason clause is guided through the *kotere* coupled with the finite verb form see example (24).

It is also possible in the means-result combination to drop the conjunction completely, in the following example the conjunction is dropped, however the meaning of the clause linkage is ‘so that’.

(27) **A-los-i aaŋa daŋa nya-kilepe nyaate nyapaarani na**
3SG-go-PRS_IMPF also INF-milk cow day this
a-ta-anyu ŋakiro naka nyeekuriti nu ni ikote.
1SG-DEP-find.out story of worm this is how
‘I am also going to milk the cow today so that I can find out what this story of the worm is all about.’

At this point it is not obvious how the hearer can access the correct information. If the conjunction between a finite-chained combination is dropped the hearer has three options, the linkage can either be additive as in example (3) and (4) or means-result as in (27). At this point it is not obvious from the context how the hearer can find out the specific meaning.

5.2.6 Condition

The condition clause is also used with the finite verb as in the following example:

(28) **Bee na e-lemarea nyitooni nyibore ka Lokaya,**
It is said when 3SG-took-INST someone something of Lokaya
ani e-lil-i iŋesi, to-liy-ori jiki nakwaare.
if 3SG-become.angry-IPFV:PST DEP-change-ALL:REFL always at.night
‘It was said that when someone took (= stole) something from a Lokaya, if he became angry, he changed [into a dangerous animal] by night.’

The condition clause is introduced through *ani* ‘if’ or ‘*ani kerai*’ ‘if’, the former *ani* represents a first-class condition clause, and *ani kerai* ‘if’ occurs as irrealis. The conjunction ‘ani’ is also used for the time relation ‘when’. However, the hearer is guided by the absence of any time adverbial that *ani* has to be the conditional ‘if.’ The *ani* in (28) cannot describe the tense relation but it explains the condition under which Lokaya changes at night into an animal, the utterance is also understood as clarification for the main event, so as background information, because the clause occurs with the finite verb marking.

6. Conclusion

The paper discussed the clause linkages in a clause-chaining model from a structural and a procedural pragmatic point of view. Structurally, Toposa is a clause-chaining language and follows the rules and principles of a clause chaining model that works on the assumption that two independent clauses following each other are disallowed. In this model a sentence structure is organized into the pattern of finite versus non-finite clauses. The non-finite clause represents the chained clauses. In order to cater for the adverbial finite clauses, the mechanism of clause-skipping is employed, where the clause linkages of time, cause-effect, conditional, purpose, means-result and contrast are integrated into the overall pattern of finite clause followed by often a long chain of infinite clauses i.e., chained clauses. The overall division between finite and non-finite clauses results in a foreground and background information structure whereby the foreground information is indicated through the chained clauses and the background information through the finite clauses. The pragmatic interpretation of the distinction between foreground and background information is explained as procedural pragmatic routines. The clause linkages that occur with the finite verbs and that are integrated into the system of the chained clauses through clause skipping guide the hearer to find explanations and comments for the main events, the foreground information, indicated through the conjunctions. The conjunctions are interpreted pragmatic procedurally and guide the hearer to find out the reason, the purpose, the condition, the result, the contrast of expected assumptions and the time relations to explain the main events of the narrative. Contrary to the structural predictions of the chained model, some chained clauses are opened by conjunctions and are still perceived as background information. These clauses represent a hybrid in the system as they are structurally foreground information but semantically dependent on the main clause through the conjunction and as they offer explanations for the expressed propositions of the main clause they are perceived as background information.

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