

Exploring Clause Chaining

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Abstract:

Certain languages make extensive use of clause chaining, which is here characterized by the possibility of long sequences of foreground clauses with operator dependence. Foreground clauses have certain predictable features, including free assertion and properties which comprise “quasi-coordination”. Background clauses generally have different properties: they are restricted to short sequences and are commonly either clause-internal modification (within the scope of the independent clause's illocutionary force and negation) or clause-external modification (outside that scope). The foreground-background distinction is a key dimension in the analysis and interpretation of chaining. It is signalled at times by clause-internal morphosyntax but often by other means, such as external distribution, intonation, and the distinction between assertion and presupposition. The semantic relation between chained clauses tends not to be signalled specifically, but is commonly inferred in temporal and causal senses. Clause chaining can give rise to difficulties in translation.

Exploring Clause Chaining

Robert A. Dooley

In narrative material, certain languages make frequent use of long sequences of dependent clauses which have important properties in syntax, semantics, information structure and discourse. This is an exploratory overview of that phenomenon.¹

As a working characterization, I will say that **CLAUSE CHAINING** is characterized by the possibility of long sequences of foreground clauses with operator dependence, typically within the sentence. A clause-chaining sentence may of course have other constituents, such as connective, point of departure and clauses in background function. Sequences of foreground clauses have certain predictable features, including those which comprise “quasi-coordination”; many of the properties of background clauses can be expected to be different. These notions will shortly be explained, with examples. Other common features of chaining, such as switch-reference marking, will also be mentioned, as well as ways that clause chains are used in discourse and problems they can give in translation.

The above characterization is not the only one possible, but it is a common one that uses broadly applicable criteria.² It seems that chaining owes much of its structure to the discourse distinction between foreground and background. This distinction is reflected in lower-level functional distinctions, such as between assertion and presupposition and between modification within the clause and outside of it.

1 Basic properties of clause chaining

We begin with the following example³:

1) **Kumyk** (Altaic, SOV, Russia; Džanmavov 1967:234, discussed in Haspelmath 1995:7f):

- a) *Bu-lar, köl-nü gör-üp,* b) *arba-syn toqtat-yp,*
this-PL lake-ACC see-CONV cart-3.POSS stop-CONV
- c) *čemodan-ny Manaj-ga da göter-t-ip,* d) *köl-nü jağa-syn-a bar-yp,*
suitcase-ACC name-DAT also take-CAUS-CONV lake-GEN bank-3.POSS-DAT go-CONV
- e) *čemodan-ny aç-yp,* f) *šyšla-ny čyğar-yp* g) *tiz-ip,*
suitcase-ACC open-CONV bottle-ACC take.out-CONV put.in.row-CONV
- h) *suw-dan toltur-yp,* i) *qajtar-yp čemodan-ğa sal-a.*
water-ABL fill-CONV return-CONV suitcase-DAT put-PRS

‘a) They see the lake, b) stop their cart, c) make Manaj bring the suitcase, d) go to the bank of the lake, e) open the suitcase, f) take out the bottles, g) put them in a row, h) fill them with water, i) and put (PRS) them back in the suitcase.’

Clauses a) - h) have the suffix *yp* (and variants), glossed ‘CONVerb’. These clauses also have **OPERATOR**

¹This paper was first written for advanced grammar in Portuguese for ALEM's CLM course in Brazil. I am indebted to Stephen Levinsohn, Shin Ja Hwang, Bob Longacre, Tom Payne and David Weber for their insightful comments and suggestions. All misunderstandings, infelicities of language and ignorance of existing work and data remain my own.

²This characterization of chaining agrees with that of Roberts (1997:104) and also generally with Payne's (1991:267), although Payne uses event clauses in place of foreground clauses, and the two need not always correspond. Longacre's (2007) treatment of chaining does not deal explicitly with long sequences; Myhill & Hibiya's (1988:363) deals with neither long sequences nor foregrounding.

³The gloss abbreviations in this paper follow the List of Standard Abbreviations in the Leipzig Glossing Rules (http://www.eva.mpg.de/lingua/pdf/LGR09_02_23.pdf), supplemented by the following: BDY – boundary between constituents of information structure, BG – background, COLL – collective, CONJ – conjunction, CONV – converb, DEM3 etc. – third level demonstrative, etc., DS – different subject, FG – foreground, INTS – intensifier, R – special r-prefix in Mbyá Guaraní, SEQ – sequential, SIM – simultaneous, SS – same subject.

1.1 Foreground-background structure

2) **Guanano** (Tucano, SOV, Colombia and Brazil; Waltz 1976:31, 125; discussed in Longacre 2007:413f);

- 'a) Going to the river, b) getting water, c) returning home, d) I went and entered.'

[illegible]

The following example shows other features:

- a) ... *xe-r-u-a* *py* *re-vaẽ* *rã* b) *i-vai* *ramo* *ma*
1SG-R-father-NMLZ in 2SG-arrive DS 3-angry DS BDY
- c) *e-mombe'u* *eme* *a-ju-a-gue*.
2SG.IMP-tell NEG.IMP 1SG-come-NMLZ-PST

foreground: c) indep

background: b) DS
a) DS

⁵Such events are foreground by default, but can be morphosyntactically “backgrounded” in some way, such as by preposing them as adverbial clauses (Thompson 1987:448).

Mbyá Guaraní and many other chaining languages have markers of **SWITCH REFERENCE**, although chaining can occur without switch reference and vice-versa.⁶ Here, these are clausal enclitics – *ramo* ~ *rã* ‘Different Subject’ or *vy* ‘Same Subject’ (not in this example) – rather than verbal affixes as is more common in languages. A switch reference marker in a **MARKING CLAUSE**, indicates whether its subject is different from or the same as the subject of the **CONTROLLING CLAUSE** (Comrie 1983:23, Stirling 1993:4). In 3), a) is a marking clause whose controlling clause is b). Since a) gives temporal/location information and b) is conditional; each provides situational orientation as background for its following clause; thus there are two levels of background. The enclitic *ma* ‘boundary marker’, a “filled pause”, can occur after topic, orientation, or focus (Dooley 1982:322), but it always occurs before the main predication; in 3), *ma* occurs between background orientation and foreground.

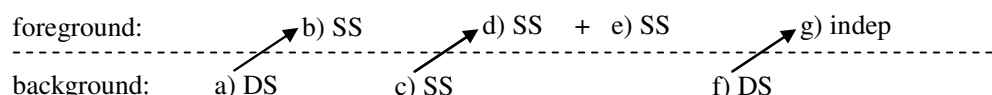
The following example has multiple patterns of background-foreground:

- 4) **Kanite** (Trans-New Guinea, SOV, Papua New Guinea; Longacre 1972 cited in Payne 1997:324 and Longacre 2007:401-402):

- a) *his-u'a-ke-'ka* b) *naki a'nemo-ka hoyā ali-'ka*
do-1PL-DS-2PL so woman-2PL garden work-2PL
- c) *naki ali ha'anoma hu-ne'atale-'ka* d) *popo hu-'ka* e) *inuna kae-'ka*
so work finish do-COMPL-2PL hoe do-2PL weeds burn-2PL
- f) *naki ha'no hu-talete-ke-ta'a*
so finish do-COMPL-DS-1PL
- g) *naki viemoka-ta'a keki'yamo'ma ha'noma ne-his-i-ana*
so man-1PL fence finish FUT-do-3-CONJ

‘a) If we do this, b) you women work the garden, c) when it is finished d) hoe e) and burn the weeds, f) when that is finished, g) we men will finish making the fence.’

In Kanite switch reference, ‘same subject’ is zero while ‘different subject’ is *-ke*, and clauses a) - f) are all inflected with the person and number of the *following* clause; only the independent clause g) is inflected for tense. Clause a) ‘if we do this’ is conditional while c) and f) are temporal; these are all background clauses of orientation – d) and e) appear to be coordinate:

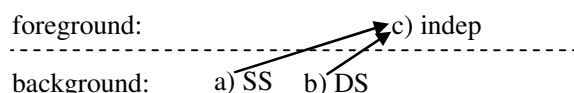


This example can be thought of as having three “mini-utterances”: a) - b), c) - d) - e), f) - g), each with orientation followed by foreground.

The following example shows a further possibility for foreground-background structure:

- 5) **Alekano (Gahuku)** (Trans-New Guinea, SOV, Papua New Guinea; Longacre 1972:13):

- ‘a) (After) I washed it (SS),
b) (since it) rained (DS),
c) I stayed in the house’



Here, the two background orientation clauses a) and b) are independent of each other in switch reference – the marking of a) as well as b) relates directly to c), that is, c) is the controlling clause for both. These two background clauses are thus juxtaposed on the same level, each one modifying c).

Example 2) shows that the internal structure of background clauses can be identical with that of

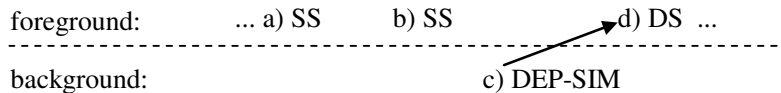
⁶Examples 1) and 2) show chaining constructions without switch reference. Switch reference without chaining occurs in two Quechuan languages (Cole 1983:2, 4) and Huichol (Comrie 1983:19). Roberts (1988:62) suggests that, whereas switch reference is closely associated with coordinate chaining in Papuan languages, in native American and Australian languages it is closely associated with subordinate adverbial clauses.

foreground clauses. In fact, Croft (2001:323) states that clauses with operator dependence are often formally ambiguous in relation to assertion, being interpretable as either asserted foreground or presupposed background orientation. Thus, a “gerund” clause in Japanese “is not itself associated with either foregrounding or backgrounding” (Myhill & Hibiya 1988:390). This means that although the foreground-background distinction has implications for inter-clausal grammar (see section 1.4), it might not be signalled in intra-clausal grammar.

In other cases, however, foreground and background clauses have morphosyntactic differences within the clause.⁷ In Chuave, for example, switch reference marking occurs with foreground but not with background:

- 6) **Chuave** (Trans-New Guinea, SOV, Papua New Guinea; Thurman 1975:349, Roberts 1997a:186):
 ‘...early in the morning
 a) [a crazy man] came (SS)
 b) stood there (SS)
 c) [while] he was standing there (DEP-SIM)
 d) [older brother] came (DS) ...’

According to Thurman (op. cit., 344), the switch reference clauses – here, a), b), d) – are foreground and “carry the action sequence through a narrative”, while non-switch reference clauses such as c) are “outside the main event line of the narrative” as background:



In Koorete (Omoti, SOV, Ethiopia) the pattern is reversed, with background clauses having switch reference and foreground clauses having none (with a few exceptions; Levinsohn 2003).

1.2 The direction of dependence

All of the examples presented thus far have had **PRENUCLEAR DEPENDENCE**: dependent clauses precede the independent clause and, where there is switch reference, marking clauses precede their controlling clause. But there are languages with sequences of clauses in **POSTNUCLEAR DEPENDENCE**, with the order nucleus – dependent.⁸ We see this in Anuak, as reported by Longacre (1990:88-90 & 2007:418):

- 7) **Anuak** (Nilotic, SVO, Sudan):
- | | | | | | | | |
|----------------|------------|-------------|------------------|--------------|---------------|-------------|-------------|
| a) <i>acɔk</i> | <i>rɛc</i> | <i>mo</i> | <i>bɛyo-bɛyo</i> | <i>ajɛrɛ</i> | b) <i>ni</i> | <i>buul</i> | <i>mɔɔk</i> |
| Achok | the.fish | REL | good | PST.chose | and | roast | some |
| | | | | | | | |
| c) <i>ni</i> | <i>cam</i> | <i>geni</i> | d) <i>ni</i> | <i>kan</i> | <i>moga</i> . | | |
| and eat | them | | and hide | the.others | | | |

‘a) Achok chose the good fish b) and roasted some c) and ate them d) and hid the others.’

Here, it is the initial clause which has a tensed verb (along with SOV order); the verbs in postnuclear clauses lack tense inflection and therefore have operator dependence, along with SVO order and the introducer *ni* ‘and’. All of the clauses in 7) appear to be foreground. This construction, then, appears to satisfy our characterization of chaining, but it is evidently not common to find this with postnuclear dependence.⁹

⁷For African languages with OV order, Longacre (1990:12) identifies three types of prenuclear chaining: type A: all the dependent clauses are background and the independent clause is foreground; type B: all the dependent clauses are foreground and the independent clause is little more than an auxiliary verb; type C: if the independent clause is narrative foreground, “on the event line”, the dependent clauses can be either background or foreground. Type C is the most common; B is rare, but is attested in Maricopa (Yuman, SOV, USA; Gordon 1983:98f) and Cogui (Chibchan, SOV, Colombia; Stendal 1976 & Levinsohn, personal communication). It is not clear whether there are languages of type A (Levinsohn 2003).

⁸Longacre (2007:417-420) uses “medial-final” for prenuclear chaining and “initial-consecutive” for postnuclear chaining, in accordance with descriptive traditions of New Guinea and Africa, respectively. Stassen (1985, cited in Haspelmath 1995:22), uses “anterior clause chaining” and “posterior clause chaining”. In this introduction I try to avoid special terminology.

⁹Payne (1991:247) claimed that “no clear examples of such languages have been documented to date”.

Swahili and certain other Bantu languages have an unusual postnuclear system:

8) **Swahili** (Bantu, SVO, East Africa; Hopper 1979:213–215):

a) *Tu-ka-enda kambi-ni*, b) *hata usiku tu-ka-toroka*, c) *tu-ka-safiri siku kadha*
1PL-FG-go camp-to and night 1PL-FG-run.off 1PL-FG-travel days several

d) *tu-ki-pitia miji fulani*, e) *na humo hamna mahongo*
1PL-BG-pass villages several and them was.not tribute

‘a) We returned to the camp, b) and ran away during the night, c) and we travelled for several days, d) we passed through several villages, e) and in all of them we did not have to pay tribute.’

According to Hopper, in Swahili “each narrative episode begins with a verb having an explicit tense marker, usually the preterite prefix *li-* [not shown in 8]; RAD]. Subsequently, verbs denoting those events which are on the main story line, that is, foregrounded events, are marked with the prefix *ka-* (replacing *li-*). Events marked as subsidiary or supportive, that is, backgrounded events, receive the prefix *ki-*.” In Swahili’s extra-sentential operator dependence, called “dependent tense” by Nurse (2003:102), its chaining is atypical.¹⁰ Example 8) has two kinds of elements glossed ‘and’, suggesting coordination. The foreground-background structure may be represented as follows – perhaps a single *ki-* prefix serves for the coordinate d) and e):

foreground:	a) <i>ka-</i>	‘and’ b) <i>ka-</i>	c) <i>ka-</i>

background:			d) <i>ki-</i> ‘and’ e)

As Hopper (loc. cit.) explains, the events of d) and e) “are not sequenced with respect to one another”; both are background which expand c).

In Australian languages, dependent clauses can occur in either direction, prenuclear or postnuclear (Roberts 1997:184). This also happens in Mbyá Guaraní of Brazil, largely governed by the foreground-background structure:

9) **Mbyá Guaraní** (Dooley 1977/2008:15, text 20:198–201):

a) *Kunhataĩ i-porã va'e o-u vy ma*
maiden 3-pretty REL 3-come SS BDY

b) “*Mba'e-xa ta xe-ngana?*” *he'i ng-uu pe ramo*
what-speculative about.to 1SG-win 3.say 3.REFL-father DAT DS

c) [*“Pe-va'e”, he'i* d) [*Pyxaĩ re o-ma'ẽ vy*] *ramo*
DEM3-rel 3-say name ABL 3-look SS DS

e) *kunhataĩ o-u vy* f) *o-i-kuavã Pyxaĩ ramo*
maiden 3-come SS 3-3-embrace name DS

g) *t-yke'y kuery i-vai gu-yvy pe.*
3-older.brother COLL 3-angry 3.REFL-younger.brother DAT

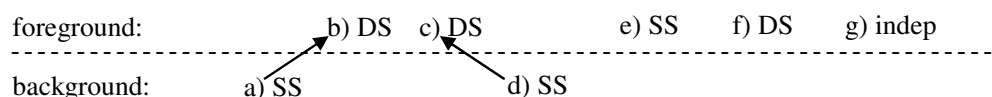
‘a) When the pretty maiden came b) she asked her father “Which one do you think will win me [for his wife]?” c) and he said “That one” d) looking at Pyxaĩ e) and then the maiden came up f) and embraced Pyxaĩ g) and his older brothers got mad at him.’

This chain has switch reference markers *vy* ‘Same Subject’ or *ramo* ‘Different Subject’ in each of the dependent clauses a) - f). Further,

- The dominant order is SOV in dependent clauses of all types but SVO in independent clauses; the language family shows evidence of SOV having been the basic order at an earlier stage.
- Tense marking is zero for non-future, so in narrative operator dependence is not apparent. In the future tense and non-declarative moods, however, operator dependence is clearer, and dependent clauses cannot differ from the independent clause in these operators (Dooley, to appear).
- All of the dependent clauses are foreground except for a) ‘when the pretty maiden came’ (which repeats

¹⁰Biblical Hebrew, with its postnuclear “consecutive” *waw* clauses, is syntactically similar to Swahili in this regard (Longacre 1985:264, footnote 6 and 2007:419).

the last clause of the preceding sentence) and d) ‘looking at Pyxaĩ’ – that is, c) and d) together narrate a single event. The boundary marker *ma* in a) thus occurs between background orientation and the foreground of b). Clause d) is both simultaneous with and intercalated in c) ‘he said “That one”’, leaving the switch-reference markers juxtaposed. The foreground-background structure is as follows:



In this language prenuclear dependence is default, codifying background or foreground and giving rise to long prenuclear sequences (section 1.5). Sequences of postnuclear dependent clauses are short, with one or two clauses of a few semantic types, such as reason, purpose, perceived event, and concomitant action as in d). All of these are subtypes of clause-internal modification (see section 1.4), and for this kind of modification the default position is postnuclear, while the default position for foreground clauses and clause-external modification (orientation) is prenuclear. Distinctions of “grounding”, then, determine the default ordering of clauses in this language.

We have been using the term “direction of dependence” in relation to operator dependence, which is global in the sense that a single independent clause is nuclear for all of the dependent clauses in the chain. When switch reference occurs as well, it is dependence of a local type: the nuclear clause for switch reference is generally adjacent to the marking clause and is often different from the chain’s independent clause. Thus, chaining with switch reference has two types of dependence: global and local. However, not all chaining has local dependence, except in a semantic sense with background clauses which modify a particular clause or part of one. Local semantic dependence can be seen in example 2) in Guanano: background clause a) ‘going to the river’ modifies b) ‘getting water’, not c) ‘returning home’ or d) ‘I went and entered’.¹¹ Other than this semantic background dependence, there is no apparent local dependence in 2).

Crosslinguistically, the dominant direction of clausal dependence tends to correspond to the basic word order of the language (Roberts 1997).¹² So prenuclear chaining is found in SOV languages of New Guinea, South America, North Africa, North America and in a band which goes across Central Asia to Japan and Korea.¹³ Postnuclear chaining is found primarily in certain African VO languages (Longacre 2007:399, 417).

The dominant direction of chaining has important consequences for both information structure and foreground-background. In narrative, the two directions of dependence – prenuclear and postnuclear – commonly result in different temporal and causal relations: a prenuclear dependent clause typically relates an antecedent cause or enabling situation, while a postnuclear dependent clause typically relates a posterior result, as with clauses 7) b) - e) in Anuak. Most background clauses are orientation, with clause-external modification, but a posterior result is rarely orientational. Since orientation is an information-structure category, the information structure can be expected to be richer in prenuclear than in postnuclear chaining.

1.3 Properties of foreground clauses

According to Roberts (1988:48, 1997:183), foreground clauses in chaining exhibit various properties of coordinate constructions. Haspelmath (1995:12-17; 2007:46f) gives five tests for identifying coordination:

- **INTERCALATION:** if two clauses are coordinate, neither can occur intercalated in the other.
- **TEMPORAL ICONICITY:** if two clauses are coordinate and narrate events or states, their linear order must agree with the chronological order of the events or states.
- **CATAPHORIC REFERENCE:** if two clauses are coordinate, the first cannot contain a reference whose “antecedent” only occurs in the second.
- **ARGUMENT FOCUS:** if two clauses are coordinate, neither can occur as argument focus.
- **EXTRACTION:** if two clauses are coordinate, an interrogative expression cannot be “extracted” from the second to occur in sentence-initial position, before the first.

¹¹On the discourse level, however, such initial orientation may signal the onset of an entire discourse unit.

¹²In Mbyá Guaraní, as we saw in 9), the dominant direction of clausal dependence corresponds to what was the basic order at an earlier stage of the language.

¹³Longacre (1990:89) claims that prenuclear chaining in SOV languages “is so diagnostic of such languages around the world that any purportedly SOV structures which do not generate such chains may be regarded with suspicion as possible historical shifts from an earlier SVO structure”.

There are dependent clauses which come out as coordinate according to these tests; these have been called “**QUASI-COORDINATE**” (Bergelson & Kibrik 1995:391-394).¹⁴ Those which fail certain tests are not necessarily subordinate in the sense of being clause-internal modifiers, but can be clause-external instead, in orientation function (section 1.4; see Bickel 1993, 1998 and Van Valin 2005:194). It appears that chained clauses are either “quasi-coordinate” or modifiers of some kind.

Two other “quasi-coordinate” properties are especially relevant for chaining:

- **FREE ASSERTION:** the clause makes an assertion which is not included in the assertion of another clause.¹⁵ As we shall see in section 1.4, background clauses are either presuppositional or included in another clause's assertion.
- **POSSIBILITY OF LONG SEQUENCES:** According to Haspelmath (2007:11), “all languages seem to allow an indefinite number of coordinands,” that is, the length of a coordinate sequence is not limited by the grammar, although other (e.g. stylistic) factors may limit it in a flexible way (section 1.5).

In chaining, foreground clauses are “quasi-coordinate”, whether they are prenuclear, as in Papuan languages (Roberts 1988:48; Haspelmath 1995:23f), or postnuclear, as in Anuak (Longacre 1990:90). (This implies that the possibility of long sequences is probably superfluous in the characterization of chaining.) In narrative, foreground clauses go beyond temporal iconicity: they are *always* ordered, since they always relate sequential events: “The difference between the sentences in the foreground (the “main line” events) and the ones in the background (the “shunted” events) has to do with sequentiality. The foregrounded events succeed one another in the narrative in the same order as their succession in the real world; it is in other words an iconic order. The backgrounded events, on the other hand, are not in sequence with the foregrounded events, but are concurrent with them” (Hopper 1979:214).¹⁶

In narrative chaining, the semantic relations between foreground clauses tend to be interpreted in temporal and causal senses. Since sequentiality holds, they occur in a “**TEMPORAL CHAIN**”. These temporal chains are generally also “**CAUSAL CHAINS**” (Schank 1975:241ff), for each event generally “causes” the following one – not always in the sense of an efficient or necessary cause, but in the sense of enabling it, rendering it possible or reasonable in its cultural or narrative context. In example 1), for instance, event e) ‘open the suitcase’ enables f) ‘take out the bottles’, which enables g) ‘put them in a row’, etc.¹⁷ Just as temporal chains occur in the order before-after, if they are also causal chains they occur in the order cause-result. It is not surprising, then, that both a temporal relation and a causal one are commonly inferred between adjacent clauses. If hearers do not find it necessary to choose between the two interpretations, there is nothing to keep them from using both, and the speaker can intend for this to happen.¹⁸

If we think of three types of narrative events – “minor”, “ordinary”, and “principal” events – then

¹⁴There are other tests of this type, such as that of Croft (2001:329) concerning the syntax of conjunctions: If there is a conjunction which always occurs between the clauses even when they are inverted, they are coordinate; if the conjunction accompanies one of the clauses, in a fixed position relative to it, that clause is subordinate. Also, when three or more clauses of the same type occur in sequence, they should be coordinate. When authors (Haiman & Munro 1983:xii, Stirling 1993:15) speak of chaining or switch reference as coordinate or paratactic, they may mean “quasi-coordinate” in a morphosyntactic sense or functionally coordinate in the semantic-discourse sense of making free assertions.

¹⁵The notion of free assertion is adapted from Cristofaro (2003:28-31), who follows Langacker (1991:438). Verstraete (2007:157) makes a related distinction between bound and free subordination, as Chafe (1984) does between bound and free intonation. Assertion and presupposition are here taken in a pragmatic sense: an assertion is a proposition which the speaker introduces into the mental representation of the hearer by means of his utterance, while a presupposition is one which the hearer already “knows” (has in mental representation) or is at least willing to accept as if it is already known. Assertion is not limited to declarative statements, but occurs with questions, commands, etc. (Lambrecht 1994:52-55, 67).

¹⁶Similarly, for Nedjalkov (1995:109), “narrative converbs” encode “completed actions in succession that advance the narration”.

¹⁷Thus, in Korean narrative, “the general meaning of [the chaining marker] *-se* is that the second event arises out of the state produced by the first event” (Kim 2000:79).

¹⁸In relevance theory, in “weak communication” the speaker intends that multiple interpretations be accessible to the hearer (Sperber & Wilson 1995:159f).

foreground is not restricted to “principal” events: in 1), all of these events appear to be foreground, since they all advance the narrative. But “minor” events, such as preparatory or routine events, are sometimes treated as foreground, as in 2) d), and sometimes as background, as in 3) a).

1.4 Properties of background clauses

In chaining, whereas all foreground clauses are coordinate or “quasi-coordinate”, background clauses generally have more of a variety of syntactic functions. Bickel (1993:24-36, 1998:394f) discusses three syntactic functions, including “quasi-coordination”, which non-complement, non-relative dependent clauses may have. These are here illustrated with examples from Chafe (1984) about the purchase of a computer:¹⁹

- In **CLAUSE-INTERNAL MODIFICATION** (“peripheral subordination” in Bickel 1993:24-36), the dependent clause is embedded in the matrix clause, modifying the VP or the clause “core” (the verb plus arguments): *I decided to buy it because it has such a big memory*. The dependent clause is part of the matrix clause’s assertion, part of its intonation contour, and part of its focus domain, hence can attract its illocutionary force and negation if it occurs. Negating the above example – *I didn’t decide to buy it because it has such a big memory* – can be understood to mean ‘I decided to buy it but not because it has such a big memory’, since negation can apply to any part of the predication. Example 9) in Mbyá Guaraní also has clause-internal modification: c) [her father] said “That one” d) **looking at Pyxaí**; here, d) modifies ‘said “That one”’, indicating concomitant action as part of the same event.²⁰
- In **CLAUSE-EXTERNAL MODIFICATION** (“ad-clausal or adsentential subordination” in Van Valin 2005:194), the dependent clause modifies the nuclear clause but is not embedded in it: *Because it has such a big memory, I decided to buy it*. Such clauses provide orientation – a situational framework – for the nuclear clause, and sometimes for an entire discourse unit. They are presuppositional and outside of the nuclear clause’s assertion and focus domain, hence also outside of its illocutionary force and negation: *Because it has such a big memory, I didn’t decide to buy it* can only mean that the large memory was a reason not to buy it – the size of the memory is not negated. Clauses in clause-external modification often have their own intonation contour. We find this type in 9) a) in Mbyá Guaraní: ‘a) **when the pretty maiden came** b) she asked her father’. Clause a) establishes a situational framework for b) and following clauses; it is presuppositional, being repeated from the preceding sentence. In general, clausal orientation is presuppositional in the pragmatic sense of being largely predictable or acceptable because of what is already known (Lambrecht 1994:52).
- In **COORDINATE OR “QUASI-COORDINATE” FUNCTION**, the dependent clause does not modify anything but makes a free assertion, distinct from that of the nuclear clause.²¹ I do not know if there are background clauses with all of the “quasi-coordinate” properties, but background clauses 8) d) - e) in Swahili apparently make free assertions: ‘d) we passed through several villages, e) and in all of them we did not have to pay tribute’.

These properties are summarized in the following table:

Syntactic functions → Properties ↓	clause-internal modification (<i>I arrived before you left</i>)	clause-external modification (<i>Before you left, I arrived</i>)	“quasi-coordination” (‘... fill the bottles with water & put them back in the suitcase’; 1) in Kumyk)
constituency	constituent of matrix clause	constituent of the sentence	constituent of the sentence
position	adjoined to VP or “core”	prenuclear (default)	in the order of events
modification	modifies VP or “core”	modifies the nuclear clause as a whole	does not modify anything

¹⁹We also use certain distinctions discussed by Cristofaro (2003:30-34), Van Valin (2005:275), and Verstraete (2007:88-90).

²⁰“Conjoined clauses ... with no intonation break typically describe subparts of what is conceived as a single event” (Mithun 1988:335).

²¹This is sometimes called “narrative function” (Nedjalkov 1995:109).

intonation	included in the intonation contour of matrix clause	can have its own contour or be included in the contour of the nuclear clause	can have its own contour or be included in the contour of the nuclear clause
assertion	included in the assertion of matrix clause	presupposed, orients the nuclear clause, perhaps more	makes a free assertion
illocutionary force & negation	attracts illocutionary force or negation of main verb	outside of illocutionary force & negation of nuclear clause	outside of illocutionary force & negation of nuclear clause
argument focus	can occur as argument focus	cannot occur as argument focus	cannot occur as argument focus

Table 1: Syntactic functions of non-complement, non-relative dependent clauses

In chaining, background clauses can, in principle, occur in any of the above syntactic functions. We see two functions in the following example:

10) **Amele** (Papuan, SOV, Papua New Guinea; Roberts 1997:184):

- i) a) *ija bili-m-ig* b) [*uqa ho-ho-n*] c) *f-ig-a*
1SG sit-SS-1SG 3SG SIM-come-3SG.DS see-1SG-TODAY.PST
‘a) I sat and c) I saw b) him coming’
- ii) a) *ija bili-ce-min* b) [*uqa ho-ho-n*] c) *j-ig-a*
1SG sit-DS-1SG 3SG SIM-come-3SG.DS eat-1SG-TODAY.PST
‘a) I sat and b) as he came c) I ate’

The switch reference marking in the a) clauses is SS when the background clause b) is clause-internal and DS when it is clause-external. Clause i) b) ‘he was coming’ is embedded in c) (as a complement?) and is “invisible” to the SS switch reference marking of a). In ii), however, the identical clause b) is a clause-external modifier of c), and the DS switch reference marking of a) “sees” it. This is because clause-internal modifiers relate closely to the predication of their matrix clause, while clause-external modifiers relate more to the sequence of clauses.

Example 10) shows that identical copies of a dependent clause can have different functions according to the context. According to Bickel (1998:394), European adverbial clauses can have clause-internal or clause-external modification, Papuan operator-dependent clauses can have clause-external modification or foreground “quasi-coordination”, and Asian operator-dependent clauses can have any of these functions. Actually, example 10) shows that Papuan operator-dependent clauses can be clause-internal modifiers as well; in native languages of the Americas, operator-dependent clauses can also occur in all three functions – see 9). Multi-functionality can beget functional ambiguity, in which two or more functional interpretations are possible for a dependent clause in the *same* context, as in the following example:

11) **Mbyá Guarani**:

- i) a) *oky rã* b) *a-ĩ xe-r-o py*
rain DS 1SG-be.located 1SG-R-house in
‘since it rained I stayed home’ / ‘it rained so I stayed home’
- ii) a) *a-ĩ xe-r-o py* b) *oky rã*
1SG-be.located 1SG-R-house in rain DS
‘I stayed at home because it rained’
- iii) a) [*oky ramo mae ma*] b) *a-ĩ xe-r-o py*
rain DS FOC BDY 1SG-be.located 1SG-R-house in
‘it was only because it rained that I was at home’

In 11) i), the prenuclear dependent clause can be a clause-external modifier b) (‘since it rained’) or “quasi-coordinate” with b) (‘it rained’). In ii) this same dependent clause in postnuclear position strongly suggests clause-internal modification (‘I stayed home because it rained’). In iii), the essentially identical dependent clause is in argument focus; *mae* is a focalizer, and the boundary marker *ma* occurs between focus and

presupposition. But this does not mean that a clause-external modifier can be focused; the focus clause in iii) can be clause-internal modification as in ii); this function, in fact, is what makes iii) possible: only clausal elements can occur in argument focus. At any rate, in Mbyá Guarani this clause type is potentially three-way multifunctional: clause-internal modification, clause-external modification, and “quasi-coordination”. In a given context, however, this ambiguity is generally resolved, with the help of intonation.

Roberts (1988:62) observes (in our terms) that whereas native American and Australian languages commonly use switch reference in functions of clause-internal and clause-external modification, Papuan languages tend to use it more in “quasi-coordination”. But even in Amele, “a typical representative of Papuan languages” (op. cit., p. 58), switch-reference can occur in the two modifying functions.

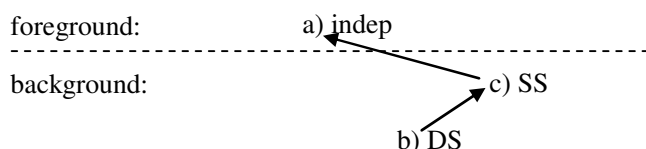
In Mbyá Guarani, *all* background types – orientation (condition, temporal setting, etc.) as well as reason, purpose, perception, etc. – have non-coordinate, modifying properties (Dooley, to appear). All of these except orientation use postnuclear position as default, as in 9) d) ‘looking at Pyxaĩ’ and 11) ii) b) ‘because it rained’. Further, at most two background clauses can occur in sequence, whether they are prenuclear or postnuclear. A prenuclear sequence of two background clauses is found in example 3), and in the following example, the first background clause is prenuclear while the second is postnuclear:

12) Mbyá Guarani:

a) ... *axaxi ty ja ... o-arõ jevy axaxi ty*
 corn collection owner 3-guard again corn collection

b) *ka'i o-u ramo* c) *o-exa-xe vy*
 monkey 3-come DS 3-see-want SS

‘... a) the cornfield’s owner guarded the cornfield again because b) when the monkey came c) he wanted to see it’



Clause b) ‘when the monkey came’ is prenuclear orientation relating to c) ‘he wanted to see it’, which in turn is a postnuclear reason relating to a). The limit of two successive background clauses is another non-coordinate, modifying property.

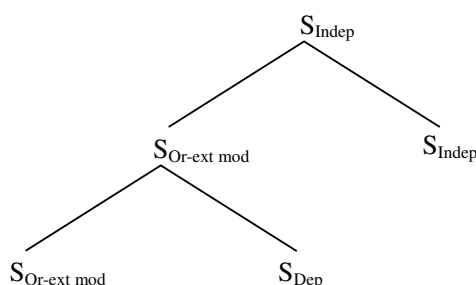
We have noted that a given chaining clause can, with respect to its internal syntax, be ambiguous between foreground and background, but that its function is generally clear in the context. Commonly, according to Schank’s notion of causal chains (section 1.3), chained clauses fill these functions successively. When we first hear a clause such as 9) e) ‘the maiden came up’ it narrates an event in sequence, thus has foreground function; but as the chain continues the function of clause e) shifts to orientation, a background function, in relation to 9) f) ‘she embraced Pyxaĩ’ and ultimately in relation to the rest of the chain. “Within the context of a paragraph, a sentence has a dual role. It has the usual role of imparting information or giving a meaning. In addition, it serves to set up the conditions by which sentences that follow it in the paragraph can be coherent” (Schank 1975:243). I classify such clauses as foreground, considering the background function to be an inferential effect, after the fact, within the chain. The “true” orientation clauses therefore are those whose function is orientation from the first; within the discourse context, they are presupposed rather than asserted. This appears to be a reasonable way to proceed analytically if, indeed, it approximates how language is actually understood. True ambiguity can exist, but in manageable proportions so that a reasonably clear foreground-background structure can emerge.

1.5 Long sequences

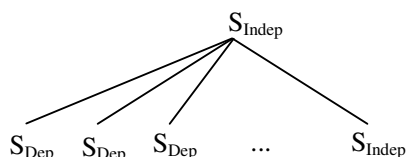
A striking property of clause chaining is that dependent foreground clauses can occur in long sequences. In Amele, “it is not unusual to find up to twenty clauses in a text linked by clause-chaining” (Roberts 1988:48). But what does “LONG SEQUENCES” signify, and how are long sequences possible?

Dependent clauses in long sequences cannot be clause-internal or clause-external modifiers. Why not? For one reason, because each modifier adds to the sentence’s structural depth, placing a burden on short-term

memory. The following diagram corresponds to example 3) in Mbyá Guaraní, which has a prenuclear sequence of two clause-external orientation clauses (cf. Van Valin 2005:193):



In chaining, non-coordinate clauses are all background. Foreground clauses, with coordination or “quasi-coordination”, do not add to the structural depth, but simply extend the flat structure (Roberts 1997:183). The following diagram could serve for example 1):



The issue of structural depth, then, can help explain why long sequences occur with foreground clauses but not with modifying background clauses. There could well be other reasons as well, even discourse-based ones: foreground assertions constitute the “main line” of a text and there are commonly places where they naturally occur in long sequences, whereas the background for any given assertion will generally be no longer than is necessary for the hearer to process it adequately.

In clause chaining, foreground sequences have no fixed upper limit, except perhaps for discourse genre or stylistic reasons; sequences of three or more clauses should certainly be possible.²² In actual practice, however, chaining may frequently use shorter sequences, with only one or two dependent clauses occurring with an independent clause. Long sequences of dependent clauses may be foreground only or a combination of foreground and background, but will predictably not be background only. Not all chaining languages have extremely long chains. In Mbyá Guaraní, it is not common to find chains with more than five foreground clauses, and in Panare (Eñepa) (Carib, SVO/OVS, Venezuela), “chains of four or more medial clauses are nonexistent in the corpus” (Payne 1991:273).

One might wonder how, in a long prenuclear chain, the hearer can wait so long, until the independent clause, to get information about tense or mood. One answer may be that such information is commonly available contextually. Possibly extremely long chains only occur when this kind of information is available. In narrative, virtually all long chains have past tense and indicative mood, so that operator dependence need not impose a serious burden on processing.

Is every language with a chaining construction a “CHAINING LANGUAGE”? As the term is generally used, the answer is “Not necessarily”. “A clause chaining language is a language that employs [chaining] as a major discourse structuring device” (Payne 1991:248). Panare (Eñepa) has a limited chaining construction, as we have seen, but it is not described as a chaining language, since “it does not employ extensive clause chaining structures as a basic discourse strategy” (op. cit., 273). Chuave, on the other hand, is a chaining language since long chains are common in narrative (Thurman 1975:344). Although the notion of “chaining language” is scalar and imprecise, it can still be useful if accompanied by careful description. The existence of a commonly-used chaining construction in a language does not, of course, imply that other constructions cannot be in common use as well.

²²For “narrative (coordinative) converbs”, Nedjalkov (1995:109) requires “three or more completed actions in succession that advance the narration”.

2 Event grouping

Narrative chaining involves **EVENT GROUPING**, presenting multiple events in a single sentence. Since grammatical integration generally reflects conceptual integration,²³ it makes sense to ask: what kind of conceptual integration is indicated by clause chaining? In what ways is this different from other types of clause linkage? How does the speaker decide which events to group together in this way? Depending on the language, the discourse genre and possibly the speaker, different criteria can contribute to this decision.

- One such criterion is based on causal chains: *the syntactic chain continues until the causal chain is “complete”*. Causal chains often have closure which is recognizable from the culture or the narrative pattern. In the Guanano culture, for example, the following sequence is likely to be routine: GO TO RIVER, GET WATER, RETURN HOME, ENTER, as in example 2). If what happens next is not part of the cultural or narrative schema, then the above causal chain is **COMPLETE** (Schank 1975:245, 253, 267). One specific form of this criterion is cited by Levinsohn (2003) in regard to Koorete (Omotic, SOV, Ethiopia): a new sentence begins when there is an act that initiates a sequence of events, and the sentence generally continues until there is a response or resolution, as in the following: “‘It was then that his brothers said, “Then throw us down!”’, got into a wicker container and, when he threw them all down the cliff, they died and were all obliterated.”’
- Also in Koorete (SOV) of Ethiopia, the following is cited as a “possible principle” for event grouping: “*When a series of events performed by the same subject is associated together, then they are presented in a single sentence. When the same subject takes a new initiative, in contrast, a new sentence is begun*” (Levinsohn 2003:4). This suggests a different criterion: *the chain continues only as long as the subject (or the initiative) does not change; when a different subject occurs, a new sentence must begin* (cf. also Longacre 2007:400). The motive behind the subject-based criterion is an organization of discourse using **TOPIC CHAINS**, which are primarily realized by sequences of clauses with the same subject (Givón 1983:54). Topic chains can be coextensive with complete causal chains, but at times the two give different groupings.
- A further criterion for event grouping is the following: *the independent clause of the sentence relates the principal event, while the dependent clauses provide preparatory events or other background* (orientation, etc.). The following example appears to be of this type:

13) **Safeyoka (Wojokeso)** (Trans-New Guinea, SOV, Papua New Guinea; West 1973, cited in Longacre 2007:405):

- a) *sikuno nome-honingk-i*
darkness come-SEQ.DS-3SG.DS
- b) *sukwo'miyomo hofantiso toho nelof-ahoningk-i kokoko*
at.night mosquito bite bite.us-SEQ.DS-3SG.DS INTS
- c) *u nakwo mempo saho mafosyawosofo*
EXCL we outside sleep we.not.sleep

‘a) Darkness came b) and at night mosquitoes bit us an awful lot c) so (being) outside we couldn’t sleep.’

In this example, the fact that they didn't sleep appears to be the principal event, while the other events – the coming of darkness and the biting of the mosquitos – could well be preparatory events. This then is a “**MACRO-EVENT**” STRATEGY: a **PRINCIPAL EVENT** accompanied by preparatory events or background.

- In certain languages, *a chained sentence produces a complete discourse unit of one size or another*. One type of discourse unit is a **NARRATIVE PARAGRAPH**, a unit with uniform orientation (Hinds 1979:136) which “compares well in distribution and length with a typical paragraph in an Indo-European language” (Longacre 2007:400). Example 1) in Kumyk appears to be of this type: ‘a) They see the lake, b) stop their cart, c) make Manaj bring the suitcase, d) go to the bank of the lake, e) open the suitcase, f) take out the bottles, g) put them in a row, h) fill them with water, i) and put them back into the suitcase.’ Besides the

²³“Elements that are semantically related syntactically related also” (Behaghel 1932:4-7); “sentences ... reflect ... what [speakers] judge to constitute a ‘complete thought’” (Chafe 1994:145); “the more two events/states are integrated semantically or pragmatically, the more will the clauses that code them be integrated grammatically” (Givón 1990:826).

multiple foreground events, what suggests an entire paragraph is that the final clause i) ‘put them back into the suitcase’ seems to be, not a principal event, but simply a **CLOSING EVENT** for the discourse unit.

- In some OV languages, *a clause chain corresponds to a DEVELOPMENTAL UNIT* (Levinsohn 2009, section 6.5.4). Such a unit, often smaller than a narrative paragraph, “represents a new development in the story or argument, as far as the author’s purpose is concerned” (Dooley & Levinsohn 2001:47). Guanano example 2) may represent a sub-paragraph developmental unit: ‘going to river, getting water, returning home, I went and entered.’²⁴ The chain ends once the significant “new development” is complete.

A language can use different criteria at different times. According to Thurman's (1975:344) description, Chuave apparently uses several of the criteria mentioned above: “A speaker may choose a final verb for several reasons. Primarily final verbs are used to alter the perspective on the topic at hand by terminating one chain so that another may begin. This may mean a change in participant orientation so that another character in the narrative becomes prominent; or it may involve reorientation only in time or space. Secondly, final verbs may be used to emphasize a point because emphatic suffixes may be attached to a final verb but not to a medial verb.”

A given clause chain can also use a combination of criteria: example 2) in Guanano, ‘going to river, getting water, returning home, I went and entered’, is cited with two different criteria above.

Finally, languages can have chaining on more than one level, each level with its own criteria. In Foré (Trans-New Guinea, SOV, Papua New Guinea) uses prenuclear “chains on two levels. The most inclusive chain has its final verb marked for mood and occurs at the end of a sizeable stretch of discourse which can on occasion be as long as two or three pages. Within this larger chain, shorter chains occur which are (except for certain special devices) limited to same-subject chains. ... the chain of maximum length compares well in distribution and length with a typical paragraph in an Indo-European language while the chain of medium length corresponds more to the sentence” (Longacre 2007:400).

3 Analytic parameters

Here we list different analytic properties we have observed. Our characterization of chaining groups together the first three of these:

Operator dependence: *Does the construction have dependent clauses which are less finite than the independent clause, inheriting certain operator values from it?*

Commonly, operator dependence is manifested by the lack of inflection for tense or mood.

Foreground: *Are there operator-dependent clauses which do not simply provide support for another assertion, but which provide “mainline” information to move the discourse forward?*

If so, the clauses are foreground (sections 1 and 1.1). In narrative, foreground clauses narrate sequential events. In chaining, background clauses are adjuncts. The foreground clauses have “quasi-coordinate” properties: temporal iconicity and the impossibility of intercalation, of deferred reference, of argument focus and of extraction (section 1.3).

Long sequences: *Can the foreground clauses occur in long sequences?*

In “long sequences” (section 1.5), the number of dependent clauses is not limited by grammar or processing, although there may be a flexible limit due to discourse or stylistic factors (Longacre 2007:400).

In the analysis of specific chaining constructions, other properties are important as well. These include the following:

Morphosyntactic marking: *By what morphosyntactic means are the clauses linked?*

By free or clitic conjunctions, as in example 9) in Mbyá Guaraní (cf. Comrie 1983:23)?

By verbal affixes, as in Anuak and Kanite (examples 7) and 4)?

By special verbal forms, as in participial clauses in English?

Categories of information: *What categories of information are signalled in the clause linkage?*

Switch reference, as in Kanite, example 4)?

²⁴For sentences which continue the current developmental unit, an additive or associate marker can be used (Levinsohn, 2009:6.5.4; Dooley & Levinsohn 2001:46-47).

Temporal succession vs simultaneity, as in certain languages of New Guinea (Longacre 2007:400, Roberts 1997:139)?

Foreground vs background, as in Swahili, example 8)?

Semantic relations: *Which specific semantic relations are signalled? Do these link background to foreground, background to background, or foreground to foreground?*

In Korean chaining, there are markers for condition, contrast/concession, and simultaneity, as well as a more general marker (Kim 2000:113f).

Direction of dependence: *In which direction does dependence occur in chaining? If in either direction, under what conditions is each direction used? Is one direction dominant? Is one direction default?*

The two directions are prenuclear and postnuclear. If in either direction, the dominant direction may be default and the other one may be restricted to specific semantic relations and short sequences (section 1.2). A third possibility is intercalation.²⁵

Syntactic function: *In which syntactic functions can a given type of dependent clause occur?* (section 1.4)

In clause-internal modification, modifying the predicate or the core of the matrix clause?

In clause-external modification, modifying and orienting the entire nuclear clause?

In coordinate or “quasi-coordinate” function, with no modification, as with foreground clauses such as event clauses in narrative?

Scope of the construction: *Is chaining restricted to the sentence or can it extend beyond the sentence?*

In operator dependence, is the independent finite clause always in the same sentence, the same paragraph, or where (section 2)?

Foreground-background structure: *Are there distinctions between foreground and background in the dependent clauses? If so, what are they?*

Do foreground and background have different markers?

Does this distinction have intonational signals?

Is it signalled by different relative orders of clauses?

Does it have different restrictions on the number of successive clauses?

Are background/orientation clauses “invisible” to switch reference or other kinds of marking?

What types of foreground-background structures occur? (section 1.1)

Event grouping: *What criteria are used for grouping events within a sentence?*

Complete causal chains?

Same subjects (topic chains)?

“Macro-events” (a principal event together with supporting events)?

Entire discourse units, such as paragraphs or developmental units? (section 2)

Discourse genres and contexts: *What constructions occur in which discourse genres and contexts?*

If a language has chaining constructions, it is assumed that narrative (and possibly procedural) discourse will have at least one type. But does it occur in all types of narrative? In other genres? In what discourse contexts (climax, non-climax, etc.)? With what frequency does the construction occur in each genre?

Can the language be described as a “chaining language”? (section 1.5)

The combination of two properties of clause chaining – foreground and operator dependence – appears to be closely related to other properties, especially in narrative:

- *long sequences of clauses:* In all languages, narrative foreground clauses commonly occur in long sequences. Conversely, the longer the sequence of clauses, the greater the possibility that some of them will be foreground.
- “*quasi-coordination*”: When dependent clauses share foreground function with an independent clause, syntactic properties of the “quasi-coordinate” type seem to follow naturally.
- *switch reference:* Since temporal and causal relations are commonly inferred with combinations of foreground clauses, they often require little specific signaling of semantic relations, and switch reference marking commonly develops (Bergelson & Kibrik 1995:394, Bickel 1998:388).

Therefore, foreground plus operator dependence appears to motivate other properties of clause chaining,

²⁵In Mbyá Guaraní (Dooley, to appear) and Inga (Quechua, SOV, Colombia; Stephen Levinsohn, personal communication), dependence occurs in both directions, with long sequences only being prenuclear.

but languages go down those paths to different lengths and in different ways. For example, many chaining constructions do not have switch reference. So instead of simply labelling a particular construction as clause chaining or not, it is more revealing to indicate how it fares along a variety of analytic parameters.

4 Constructions that are similar to chaining

In Swahili postnuclear chaining in example 8), the operator dependence inherits tense from an independent verb which often occurs outside the sentence. We also observed this in Foré (section 2). Chains which go beyond the sentence are atypical in terms of our characterization.

In other languages we find constructions that, in one way or another, do not go as far as our characterization. In European languages, absolute and participial clauses are presented as background and generally only occur in short sequences.²⁶ The following is a genitive absolute:

- 14) **Koiné Greek** (extinct, VSO; John 6.18 in literal translation):
 ‘And the sea, **a strong wind blowing**, was being roused.’

Although many genitives absolute are presupposed, this one makes a free assertion. However, it is secondary or preparatory in relation to the main clause ‘the sea was being roused’, as well being simultaneous with it – in short, genitives absolute are background which can make free assertions. According to Levinsohn (2000:181 and 2008), in Koiné Greek, even when prenuclear/prefocal participial clauses (including genitives absolute) make free assertions, they are always background. Since such clauses are never foreground, they depart from our characterization of chaining.

Certain constructions fall short of chaining because they lack operator dependence. This is the case with coordinate sequences of finite event clauses in English:

- 15) **American English** (English, SVO, USA; Labov & Waletzky 1967:18, text 11):
 a) *So he seen the pig*, b) *and went over there*, c) *and picked the pig up* d) *and put it in the boat*
 d) *and brought it back to shore*, e) *so he would land there*.

Here, clauses a) - d) comprise a long foreground sequence but they lack operator dependence, since all the verbs are fully finite.

Constructions such as 15) are sometimes called “chaining” and actually have more in common with chaining than do adverbial clauses in European languages, since the latter have none of the formal properties that are cited in our characterization (Payne 1991:252-253).

5 Translation

It is often difficult to translate prenuclear chaining into a European language with SVO order, such as English or Portuguese. This is true for at least two reasons: i) due to increased structural depth, European languages may not permit adverbial clauses with multiple levels of prenuclear dependence (section 1.5); ii) such languages generally use independent clauses for assertion and foreground and dependent clauses for presupposition and background (although there are exceptions), while chained clauses are commonly assertional and foreground (section 1.1). Long sequences of foreground clauses of chaining are often translated with coordination, as in example 1), or a combination of coordination and subordination, as in 4).

Translation in the other direction – from a European language to one with clause chaining – can also have problems related to assertion and presupposition. Whereas pre-nuclear participial clauses in Koine Greek are background in relation to the nuclear clause (Levinsohn 2000:183f), when they are translated as prenuclear chaining the background function can be neutralized, as in Gojri (Indo-Aryan, SOV, India; Fast 2008, section 3.4) and Korean (isolate, SOV, Korea; Hwang 1994). Other mismatches may have to do with different criteria for grouping events (section 2). If the receptor language has a different basic word order from the source language, the dominant direction of dependence will likely be different also (section 1.2).

6 Summary

In different parts of the world there are languages which make extensive use of clause chaining, which is here characterized by the possibility of long sequences of foreground clauses with operator dependence. Foreground clauses have certain predictable features, including free assertion and properties which comprise “quasi-coordination”. Background clauses can be expected to have different properties: in syntactic function

²⁶The longest such sequence (Mark 5.25-27) has seven participial clauses (Levinsohn 2008).

they are commonly either clause-internal modification (within the scope of the independent clause's illocutionary force and negation) or clause-external modification (outside that scope), and are restricted to short sequences. The foreground-background distinction is a key dimension in the analysis and understanding of chaining. It is signalled at times by internal morphosyntax but often by other means, such as external distribution, intonation, and the contextual distinction between assertion and presupposition, and at times it is ambiguous.

The combination of foreground and operator dependence can motivate other chaining properties, but languages differ in which of those properties they use, to what extent, and in what ways. Parameters for analyzing chaining include morphosyntactic marking, categories of information in the marking, signals of specific semantic relations, direction(s) of dependence, syntactic function of dependent clauses, scope of the construction, foreground-background structure, criteria used in grouping events, and the discourse genres and contexts in which chaining occurs. The semantic relation between chained clauses tends not to be signalled specifically, but is commonly inferred in temporal and causal senses. The translation of prenuclear clause chaining into European languages or vice-versa can be difficult because of different ways to realize assertion and presupposition; other adjustments are commonly necessary as well.

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