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Complex coordination in diachrony

Two Sogeram case studies*

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This paper presents two innovations in the clause chaining system of the Sogeram languages of Papua New Guinea. In the first, chain-final morphology was reanalyzed as chain-medial morphology with different-subject switch reference meaning. In the second, common collocations of two verbs in a clause chain were reanalyzed as constituting a single compound verb stem. Previously, scholars held that increased structural integration of clauses necessarily results in structural asymmetry (that is, subordination), but the Sogeram data show that this need not always be the case. The cross-linguistic impulse towards increased integration is realized in both innovations, but the impulse towards asymmetry is only realized in the first. This paper thus argues that with coordinate source constructions such as these clause chains, one clause may become subordinate to the other, but the clauses may also retain their coordinate relationship as they become more integrated.

Keywords: complex coordination, clause chaining, switch reference, Trans New Guinea, Madang, Sogeram, grammaticalization, reconstruction

1. Introduction

The Sogeram languages are a small subgroup of Trans New Guinea languages spoken in Madang Province, Papua New Guinea. Clause chaining and switch

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reference are reconstructible to Proto-Sogeram, so these languages afford us an opportunity to investigate the diachronic behavior of these clause chains, which have so far been rather neglected in the historical-linguistic literature. This paper is structured around two innovations in the clause chaining systems of Sogeram languages: in the first, adjacent clause chains merged via the reanalysis of chain-final morphology on the first chain; in the second, two adjacent clauses in a chain univerted and became a single compound verb stem.

The primary aim of this paper is to propose a modification to our typology of diachronic clause combining. Research in this area has focused on subordinate phenomena almost to the exclusion of coordinate phenomena, so that certain formulations of cross-linguistic findings cannot even be applied to complex coordinate structures. For example, one “universal of diachronic syntax” articulated by Harris & Campbell (1995: 193) states that “when the two clauses are made one by diachronic processes, the main verb governs the syntax of the reflex clause.” This claim is plainly inapplicable to coordinate phenomena. Similarly, Hopper & Traugott’s (2003: 177) “cline of clause combining,” which leads from parataxis to hypotaxis and then to subordination, frames subordination as the outcome of all changes to complex constructions. The data below, however, suggest that it is possible for complex coordinate constructions to become more integrated **without** showing signs of subordination. I therefore propose that the integration of complex constructions and the development of subordination should be considered separate, albeit related, phenomena, and that one can take place without the other.

The second aim is to describe how one kind of complex coordinate construction, a Papuan-style clause chain, behaves over time. These clause chains are widespread in Melanesia (Roberts 1997, Foley 2000), but they have received little attention from historical linguists, aside from a handful of investigations into the origins of their morphology.

The next section presents relevant facts about how complex coordinate constructions — especially clause chains — change. I then introduce the Sogeram subgroup and its system of clause chaining and switch reference in §3, discuss the case studies in §§4–5 and conclude in §6.

2. Change in complex coordinate constructions

When complex constructions change, they usually do so in an asymmetrical way. One clause remains a clause, while the other becomes an auxiliary, a quotative particle, a sentential adverb or something else. As noted, Hopper & Traugott (2003: 177–178) proposed a “cline of clause combining” to capture how these changes usually proceed: languages begin with paratactic structures (–dependent,

–embedded), in which neither clause is dependent on the other for its interpretation, and neither is embedded; they are simply juxtaposed. These structures then tend to become hypotactic (+dependent, –embedded) — that is, one clause becomes dependent on the other for certain information. Finally, hypotactic structures become subordinate (+dependent, +embedded) when the dependent clause becomes fully embedded in the other clause. Similar generalizations have been made by a number of other researchers (such as Heine 1993, Ohori 1994 and Harris & Campbell 1995).

There has been research into complex coordinate constructions, including clause chains, at every stage along this cline, although most of it has focused on the origins of the markers of parataxis — that is, the origins of coordinating morphology. Thus several researchers (e.g., Mithun 1988, Gunthner 1996, Van Klinken 2000, Appiah Amfo 2010) have investigated the origins of coordinating conjunctions, but have concluded that “there does not appear to be a universal path along which they necessarily evolve” (Mithun 1988: 351).

The development of paratactic coordinate structures into hypotactic structures has also been documented, for example in Moyse-Faurie & Lynch’s (2004) work on Proto-Oceanic coordinators. In Papuan languages, where hypotactic switch reference clause chains are common, research into the development from parataxis to hypotaxis has been framed as research into the origin of switch reference morphology. Thus Haiman (1983) suggested that one source for same-subject markers might be conjunction gapping, while different-subject markers may originate from conjunctions. The latter hypothesis was supported in his later work (Haiman 1987), and also by Roberts (1988a:83). Givón (1983), meanwhile, argued that different-subject markers originate from independent subject pronouns in the following clause of the clause chain — although Roberts (1997: 191) later contended that Papuan languages offer little empirical support for this hypothesis. Another proposal by Haiman (1987) concerns the frequent identity of different-subject medial verb forms and final subjunctive verb forms, as for example in Kewa (Franklin 1971) and Usan (Reesink 1987). Observing that “the subjunctive is the non-committal mood par excellence,” he remarked that it was plausible that “the subjunctive should be pressed into service to mark non-final coordinate clauses” (Haiman 1987: 361).

This scenario, under which a TAM category that was restricted to chain-final position comes to mark chain-medial switch reference, has been documented in greater detail in the Awyu-Dumut languages (De Vries 1997, 2010) and is worth discussing in some detail. All Awyu-Dumut languages have clause chaining, but not all of them have switch reference. In those that do have it, though, the different-subject medial forms are cognate with finite or semi-finite forms in other languages. De Vries (2010) argues that, in the Dumut subgroup, the process began

with simple coordinated verb phrases. When two verbs with the same subject and tense were coordinated, the tense-marking suffix could be dropped from the first verb. This created a non-finite same-subject verb form, as in South Wambon. Now that a verb form with same-subject meaning was available, speakers began to prefer it in same-subject conditions, using it 76% of the time (De Vries 2010: 343). This meant that the contrasting semi-finite form came to be used more often in different-subject conditions. This association, which remains just a frequency pattern in South Wambon, became fixed in North Wambon. Similarly, in the Awyu language Kombai, independent verb forms can occur either medially or finally; “when occurring medially, independent verb forms are followed by verbs with a different subject” (De Vries 1997: 90). Thus, due to a pattern of discourse frequency, a verb form that had no switch reference meaning was reanalyzed as a different-subject form.

Finally, the development from hypotaxis to subordination has received a great deal of attention in the grammaticalization literature, although the discussions have seldom involved coordinate source constructions. One well-known exception is the posture-verb construction *SIT* (*LIE*, etc.) *AND* verb in Danish, Swedish and Norwegian (cf. also Van Oosten 1986 on Dutch). In this construction, the posture verb has essentially become an aspectual auxiliary with durative or progressive meaning (Braunmüller 1991, cited in Hopper & Traugott 2003: 206, Hilpert & Koops 2008), as shown in (1).

Swedish

(1) *Vi bara satt och pratade.*

we just sat and talked

“We were just talking.”

(Hilpert & Koops 2008: 245)

The change from hypotaxis to subordination also occurs in clause-chaining languages. DeLancey (1991), for example, discusses a change in Lhasa Tibetan clause chaining whereby chain-final verbs lose their clausehood and become aspectual markers. Aikhenvald (2009: 398) presents an innovation in the Papuan language Manambu, in which the verb *ata-wa-ta:y* “then-say-COTEMPORANEOUS” grammaticalized into a clause connective meaning “because, as a result of.”

We see, then, that the twin impulses towards increased integration and increased subordination are at work in a wide variety of complex coordinate constructions — clause chains as well as other constructions. In the case studies that follow, I examine whether these impulses are as universal, and as closely related, as previous research has suggested. I begin, though, with an introduction to the Sogeram languages and an examination of their clause chains.

3. Clause chaining in the Sogeram languages

The Sogeram languages belong to the South Adelbert branch of the Madang group, which is the “the largest well-defined branch” of the Trans New Guinea family (Pawley 2006: 429; see also Z’graggen 1971, 1975, Pawley 2005, Ross 2005). There are nine Sogeram languages: Mand, Nend, Manat, Apali, Mum, Sirva, Aisi, Kursav and Gants. Previous work on the internal subgrouping of the languages suggests the family tree shown in Figure 1 (Daniels 2010a, 2013); however, it bears mentioning that Nend and Manat, members of different branches of the family, have been in very intense contact. As noted in Daniels (2010a), Manat has borrowed a great deal of vocabulary from Nend, making it likely that a certain degree of structural assimilation has taken place as well.

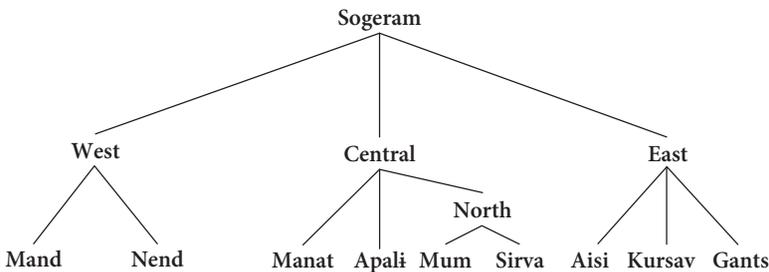


Figure 1. The subgrouping of the Sogeram languages.

The case studies concern three Sogeram languages: Nend, Manat and Apali. Although these languages belong to two first-order subgroups of Sogeram, they occupy a geographically contiguous area, and it is possible that the innovations discussed here do not actually date to Proto-Sogeram, but rather to some later variety. This question, however, does not affect my argument, so for the sake of simplicity I refer to the relevant proto-language as ‘Proto-Sogeram.’

The Sogeram languages all possess rather elaborate clause chaining and switch reference systems. Clauses are chained together and the last verb in the chain (the ‘final verb’) is marked for the full range of TAM categories, while all of the preceding verbs (the ‘medial verbs’) are marked for switch reference and sometimes relative tense (that is, sequential versus simultaneous). The TAM information from the final verb has scope over the whole chain. I use the term ‘sentence’ to refer to any well-formed chain — that is, a final verb preceded by zero or more medial verbs. The switch reference marker on a medial verb indicates whether the subject of the clause that it is in (the ‘marked clause,’ per Comrie 1983) is the same as, or different from, the subject of the following clause in the chain (the ‘controlling clause’). If the controlling clause has the same subject, then the same-subject suffix has no person information (except in Manat, where it distinguishes first

person from non-first person). This is illustrated in (2), where all the clauses have the same subject, so the Apali same-subject suffix *-vila* is used throughout. If the controlling clause has a different subject, however, then the different-subject suffix agrees with the subject of the marked clause. Thus in (3), where the clauses all have different subjects, each verb has a different-subject suffix that is indexed for agreement with its own subject.¹

Apali

- (2) *Hilana-vila van viasa-vila cihu ala u-ah-ilu, uleŋ.*
 cook-ss netbag carry.on.head-ss again FOC go-FAR.PST-1PL village
 “We cooked and put our netbags on our heads and again we went, to the
 village that is.” (Wade 1997:2)

Apali

- (3) *Ve-havi-ci igi-liŋ tane aga-di hav-ali.*
 come-PL-3.DS see-1SG.DS pumpkin DEF-OBL carry-3SG.FAR.PST
 “They came and I saw (him) and he carried the pumpkin.” (Wade 1997:2)

As mentioned above, the Sogeram languages also sometimes mark relative tense on their medial verbs, usually distinguishing ‘sequential’ from ‘simultaneous.’ If a clause is marked as sequential then the event it describes precedes the event of the following clause; all the medial clauses in (2) and (3) are sequential. Simultaneous marking indicates that the event of the marked clause occurs at the same time as the event of the controlling clause, as in (4) and (5). This paper deals almost exclusively with sequential medial verbs, so for space reasons the category simultaneous is the only one that I mark overtly in the glosses.

Nend

- (4) *Ekwa wa-z-and ensa mbikir oreŋgi-m-a-r*
 dream see-3SG.DS-SIM name 3SG.POSS call-INDF-HIS.PST-3SG
 “While he was seeing a dream, it called his name.” (Harris 1990: 120)

Manat

- (5) *Vu-s~vus=a, nadi tu-b akai ruku-ma-g.*
 go-3SG.DS~SIM=INT woman FD-NOM COMP see-PST-3SG.FAR
 “As he was going, that woman was already watching him.”

Switch reference systems in many Papuan languages are quite sensitive to semantic factors such as topicality, eventhood and agency, and several authors have

1. A few orthographic points deserve mention: The liquid phoneme is represented by ⟨l⟩ in Apali and ⟨r⟩ in the other languages. Voiced stops are prenasalized, but the prenasalization is only written in Nend. The symbol ⟨h⟩ represents the voiced velar fricative /ɣ/, and ⟨c⟩ represents the affricate /tʃ/.

investigated the question: what do switch reference systems track? Haiman & Munro (1983:xi), for example, argue that they track a “strictly syntactic” notion of subject, while Roberts (1988a:114) holds that they track “the thematic continuity of who/what is the topical entity in the following sentence.” Other authors have maintained that the question is essentially unanswerable in a cross-linguistic way: switch reference simply functions differently in different languages (cf. Reesink 1983, Donohue 2005). This characterization is surely the most accurate. But whatever cross-linguistic arguments can be made about switch reference, for our purposes it is enough to observe that Nend, Manat and Apali are relatively strict subject-tracking languages.

Harris, describing Nend, notes that “in the vast majority of cases the [switch reference] system does indeed track grammatical subject, even in cases where the subject and topic diverge” (1990:149). Wade makes a similar observation for Apali: “In one body of texts that I collected and studied, switch referencing was found to monitor the grammatical subject in all but about 5% of the occurrences” (1997:3). Similarly, in Manat, the switch reference system tracks a syntactically-defined notion of subject in the vast majority of cases. Thus, when expressing the action of a topical human agent on a non-topical, unfocused, non-agentive, inanimate patient, as with a man cutting houseposts in (6), the switch reference system still tracks the posts. In fact, even inanimate forces like anger (7) and meteorological phenomena like sunrises (8) are tracked by the Manat switch reference system.

Manat

- (6) *Migr-it aku-s akuru-vu-z, ram-itih-in ara-ma-g.*
 cut-1SG.DS go.up-3SG.DS carry-go-1.SS put-FAR.FUT-1SG say-PST-3SG.FAR
 “I’ll cut (them) up [*lit.* cut them and they’ll go up] and carry them and set them (up),’ he said.”

Manat

- (7) *Bi yaba kris ka-n ña-n, ki-s akai*
 3.NOM water bad MD-ACC eat-2/3.SS do.thus-3SG.DS COMP
giv ka-b aka-s ni-pihin=ik akai iv-id.
 anger MD-NOM come.up-3SG.DS 3.POSS-wife=ACC COMP hit-3SG.IPST
 “He drank beer and got mad [*lit.* anger came up] and he hit his wife.”

Manat

- (8) *Miga-ñi-s nywamkwa-s=a, bamda=k, hid*
 come.down-stay-3SG.DS dawn-3SG.DS=INT morning=ACC move
vu-ma-g.
 go-PST-3SG.FAR
 “He slept [*lit.* come.down-stay] and it dawned, and in the morning he went.”

Apali

- (10) *Simiŋ ma-na-ŋila humigaŋ sa him-i.*
 food NEG-eat-SS stomach BEN die-3SG.IPST
 “He didn’t eat and died of hunger (i.e., was very hungry).” (Wade ms. a: 160)

Apali

- (11) *La-ŋila ninaŋ nadi via-ŋila avili ma-s-avi-la-li.*
 do-SS son daughter get-SS water NEG-wash-PL-HAB-3
 “They do that and after they bear [*lit.* get] the child they do not bathe.”
 (Wade ms. b)

I now turn to the first case study, in which two sentences merged into one via the reanalysis of final morphology on the first sentence.

4. Sentence coalescence

Before discussing the sentence coalescence that took place in the Sogeram languages, it is necessary to introduce the relevant Proto-Sogeram morphology. I therefore begin with the immediate past (§4.1) and different-subject (§4.2) paradigms, and discuss the synchronic data in §4.3.

4.1 The immediate past paradigm

The Proto-Sogeram immediate past paradigm has been reconstructed as follows (Daniels 2010a: 170, 2010b):

Table 1. Proto-Sogeram immediate past paradigm.

	Singular	Plural
First person	*-Ø-in	*-Ø-riŋ
Second person	*-Ø-na	*-Ø-ra
Third person	*-Ø-i	*-Ø-PL-i

In the Sogeram languages, immediate past is indicated by the lack of a tense suffix (indicated with *-Ø in the table) followed by a reflex of one of the agreement suffixes shown in Table 1. For most Sogeram languages, the time reference of this tense includes the present moment and extends some distance into the past. It is generally the least semantically marked tense, often functioning as a historical present in narratives about the distant past.

In Manat, the range of the immediate past extends from the morning of the day of the speech act (12) up to and including the present moment (13).

Manat

- (12) *Wiya vu-z ruku-z aiha-r.*
 just go-1.SS look-1.SS come-1PL.IPST
 “We just went and looked and came back.”

Manat

- (13) *Mat kad kankiha-rad ar-ura-ma-g.*
 what BEN do.that-2PL.IPST say-PL-PST-3.FAR
 “‘Why are you guys doing that?’ they said.”

In Apali the immediate past tense has similar meaning: Wade even observes that it “might be labeled present tense, but it actually refers to something that just happened” (ms. a: 166). This ambiguity may arise from the fact that “the normal temporal range of a tense can be adjusted for pragmatic reasons” (ms. a: 167). In Nend the cognate tense marks events from “the last several hours up to the present” (Harris 1990: 127), but does not include the present moment. All the same, it is the immediate past, not the present tense, that is used as a historical present in Nend. We now turn to a reconstruction of the different-subject paradigm.

4.2 The different-subject paradigm

The Nend different-subject paradigm is presented in Table 2. Nend has different forms for first person singular and plural, but in the second and third persons it forms the plural by means of a discrete plural suffix. While Manat and Apali employ this strategy in the third person, Nend does so in the second person as well. Examples (14) and (15) illustrate Nend different-subject suffixes in use.

Table 2. Nend different-subject paradigm.

	Singular	Plural
First person	-ŋ	-riŋ
Second person	-n	-mgi-n
Third person	-z	-mgi-z

Nend

- (14) *Njihami-mgi-n imbir ŋi-z imbir ar~ar ka-ndara-mgi-n.*
 hear-PL-2.DS good stay-3SG.DS good say~NMLZ talk-FUT-PL-2
 “You guys listen and if it is good then you will say that it is good.”
 (Harris ms.)

Nend

- (15) *Ay-e wari-z mac Dom-v war-em-ir.*
 come-ss yell-3SG.DS finish Dom-NOM yell-YPST-3SG
 “He came and yelled and then Dom yelled.” (Harris 1990: 126)

The Manat different-subject paradigm is shown in Table 3. As noted above, Manat makes use of a discrete plural morpheme in the third person, but otherwise has a separate desinence for each person-number category. Examples (16) and (17) illustrate third person and first person different-subject clauses.

Table 3. Manat different-subject paradigm.

	Singular	Plural
First person	-it	-r
Second person	-in	-ir
Third person	-s	-ura-s

Manat

- (16) *Miga-ñiñ-ura-s ηwamkwa-s, ñiñ-ura-ma-g, ηada=k.*
 come.down-stay-PL-3.DS dawn-3SG.DS stay-PL-PST-3.FAR day=ACC
 “They slept (come.down-stay) and it dawned and they were there during the daytime.”

Manat

- (17) *Akei miña-z avamkwa-z apara-r v-id-ip=i?*
 okay get-1.SS cut-1.SS throw-1PL.DS go-3SG.IPST-CTR=Q
 “Alright, can we take (it) and cut and throw it away [*lit.* throw it and it goes]?”

The Apali different-subject paradigm is given in Table 4. Like Manat, Apali employs a plural morpheme in the third person but not the first or second person. Examples (18) and (19) show different-subject suffixes in use.

Table 4. Apali different-subject paradigm.

	Singular	Plural
First person	-liñ	-mili
Second person	-nan	-lan
Third person	-ci	-havi-ci

Apali

- (18) *Ve-mili Huñaviñ hifili li-ci hifili ve-malam-ilu.*
 come-1PL.DS Huñaviñ night do-3SG.DS night come-YPST-1PL
 “We came and it became dark at Huñaviñ and we came yesterday at night.”
 (Wade 1997: 5)

- Apali
- (19) *Ve-naŋ* *u-mili* *u-in.*
 come-2SG.DS go-1PL.IMP say-1S.IPST
 “‘You come and let’s go,’ I said.” (Wade ms. b)

The reconstructed Proto-Sogeram different-subject paradigm is given in Table 5. The forms are, for the most part, straightforward to reconstruct based on the phonological innovations discussed in Daniels (2010a, 2010b). But the 1PL form presents us with some difficulties: Nend and Manat both exhibit regular reflexes of **-riŋ*, while Apali exhibits a reflex of **-miri*.²

Table 5. Proto-Sogeram different-subject paradigm.

	Nend	Manat	Apali	Proto-Sogeram
First person singular	<i>-ŋ</i>	<i>-it</i>	<i>-liŋ</i>	<i>*-itiŋ</i>
Second person singular	<i>-n</i>	<i>-in</i>	<i>-naŋ</i>	<i>*-ina</i>
Third person singular	<i>-z</i>	<i>-s</i>	<i>-ci</i>	<i>*-s</i>
First person plural	<i>-riŋ</i>	<i>-r</i>	<i>-mili</i>	<i>*-miri</i>
Second person plural	<i>-mgi-n</i>	<i>-ir</i>	<i>-laŋ</i>	<i>*-ira</i>
Third person plural	<i>-mgi-z</i>	<i>-ura-s</i>	<i>-havi-ci</i>	<i>*-PL-s</i>

In deciding what to reconstruct for “1PL.DS,” we must decide which of the two potential reconstructions offers the most plausible history. If we reconstruct **-riŋ*, we must be able to posit a plausible etymology for the innovative Apali *-mili*, but no such etymology presents itself. If, however, we reconstruct **-miri*, then an etymology for the innovative Nend and Manat forms is immediately apparent: the homophonous “1PL.IPST” form **-riŋ*. Assuming we can reconstruct a plausible path of innovation that leads from IPST to DS, the reconstruction of **-miri* should be preferred. Such a path of innovation can, in fact, be reconstructed — and what is more, the same innovation is currently underway in Manat, where the suffix *-in* “1SG.IPST” is replacing the suffix *-it* “1SG.DS.”

First, however, I present another piece of evidence in favor of reconstructing Proto-Sogeram **-miri*, which comes from Anamuxra (Ingram 2001), a language of the Josephstaal subgroup of South Adelbert. Josephstaal, as a sister subgroup to Sogeram, can provide useful evidence when it is unclear which reflex to reconstruct for Proto-Sogeram. Anamuxra has a 1DU irrealis medial suffix *-mr-i* “-1DU.IRREALIS-DS.SEQUENTIAL,” suggesting that the Apali form is a retention

2. In the Aki dialect of Apali, *-mili* would also be an expected reflex of **-miti*. But since *-mili* is also found in the Aci dialect, which did not lenite intervocalic stops, the reconstruction of **-miri* is preferred.

from Proto-South Adelbert. Apali has lost the realis–irrealis distinction in medial verbs, and has also neutralized the distinction between dual and plural number.

Given that we can securely reconstruct the Proto-Sogeram suffix *-miri ‘1PL.DS,’ I now discuss how IPST suffixes came to be reanalyzed as DS suffixes by examining the current distribution of the Manat suffixes *-it* ‘1SG.DS’ and *-in* ‘1SG.IPST.’

4.3 Discussion

The Manat suffix *-it* ‘1SG.DS’ is currently in competition with the suffix *-in* ‘1SG.IPST.’ The older suffix *-it* is still productive in many different-subject conditions, as illustrated in (20) and (21) below.

- Manat
 (20) *Ig-it miŋa-md!*
 give-1SG.DS get-2SG.IMP
 ‘Take it!’ [*lit.* ‘I should give (it) and you should take (it)!’]

- Manat
 (21) *Zi ŋar-it ma ai-tak-id-ip=a*
 1SG speak-1SG.DS NEG come-IFUT-3SG-CTR=INT
 ‘I can’t tell it to come.’ [*lit.* ‘If I speak, it won’t come.’]

However, *-in* ‘1SG.IPST’ can also be used in different-subject conditions. It is still a fully productive final suffix, as illustrated in (22), where a 1SG sentence happens to precede a 1PL sentence. The two sentences are clearly separate, however, and fall under separate intonation contours.³

- Manat
 (22) a. *Ini-n pi mu kai aih-in=a.*
 ND-ACC house SPEC LOC come-1SG.IPST=INT
 ‘I’ve come to another place here.’
 b. *Nad aiha-r=a.*
 1DU come-1PL.IPST=INT
 ‘The two of us have come.’

In (23), the sequence involving the verb *ŋarin* ‘I spoke’ can be analyzed as two sentences, where the second sentence simply happens to begin with a different subject. However, both sentences fall under a single intonation contour, which complicates this analysis.

3. Manat examples that are divided into separate lettered lines indicate separate intonational and sentential units. Commas are used to indicate places where there is an intonational break, but no sentence boundary.

Manat

- (23) *Marik ia, ni ŋar-in ma ai-n*
 sorcerer here 2SG.ACC speak-1SG.IPST NEG come-2/3.SS
mīga-ñiŋa-nad-ip ara-ma-g.
 come.down-stay-2SG.IPST-CTR say-PST-3SG.FAR
 “There was a sorcerer, I told you but you didn’t come sleep (with me),” he said.”

In (24), the two-sentence analysis is even less felicitous because the verb ending in *-in*, *midaparin* “I erected,” is part of an idiomatic construction, *midapara- migu-*, meaning “bring up (a matter).” The construction is one unit semantically, and arguing that it consists of two separate sentences is implausible, although such a case could still be made.

Manat

- (24) *A, mid-apar-in miġ-id ara-ŋin.*
 ah plant-throw-1SG.IPST go.down-3SG.IPST say-1SG.RPST
 “I said, ‘Ah, I’ll bring up (this matter) [*lit.* erect it and it will go down].”

In (25), however, it is not possible to say that *midaparin* is a final verb. It is being used in the same construction as in (24), but now there is a tense mismatch between *midaparin*, which is marked immediate past, and *migug*, which is marked recent past. The event in question occurred about five years prior to the utterance, which places it in the range of time referred to by the recent past tense. Events that take place that far in the past can also be marked far past, but not immediate past. It is clear, then, that *midaparin* takes its tense information from *migug* — and consequently, that *-in* “1SG.IPST” has been fully reanalyzed as a semantically dependent medial switch reference suffix.

Manat

- (25) *Ki-s=a, vana ini-n mid-apar-in migu-g.*
 do.thus-3SG.DS=INT speech ND-ACC plant-throw-1SG.IPST go.down-3SG.RPST
 “Therefore, I brought up this matter.” [*lit.* “I erected it and it went down.”]

Another example of a reanalyzed *-in* is given in (26). In this example it shares no arguments with its final verb and is under a separate intonation contour. However, its intonation contour is non-final, and the event that it describes receives its tense information from the final verb *ŋamkwag*.

Manat

- (26) *Amiñ z-emptak mīga-ñiŋ-in=a, ŋamkwa-g*
 yesterday 1SG-alone come.down-stay-1SG.IPST=INT dawn-3SG.RPST
 “Yesterday I slept alone until morning [*lit.* slept alone and it dawned].”

In fact, the reanalysis of *-in* is at such an advanced stage that it has fully replaced *-it* in certain tenses. The suffix *-in* is required in (27a), where *-it* is ungrammatical, as shown in (27b). Interestingly, though, when the tense of the final verb is changed, as in (28a), *-it* is required and *-in* is ungrammatical (28b). It turns out that *-in* is required in realis chains (chains marked with the immediate past and other past tenses), while *-it* is required in irrealis chains (chains marked with the imperative, prohibitive or one of the future tenses). This pattern may be due to the origins of the reanalysis of *-in* as a different-subject suffix. Recall that in the environment where reanalysis occurred, illustrated in (23), *-in* “1SG.IPST” is adjacent to another immediate past sentence. Since this environment is presumably where *-in* has been used as a different-subject suffix for the longest time, it has probably displaced *-it* more fully in that context than in any other. Extension to other realis categories would follow more naturally, and extension to irrealis categories may come next, or the present distribution may prove stable.

Manat

- (27) a. *Z=a, miŋ-in akib-id=i?*
 1SG=INT get-1SG.IPST appear-3SG.IPST=Q
 “I made it appear [*lit.* held it and it appeared]?”
 b. **zi miŋ-it akib-id*
 1SG get-1SG.DS appear-3SG.IPST

Manat

- (28) a. *Zi tr-it ak-inad.*
 1SG pull-1SG.DS go.up-3SG.PROH
 “I shouldn’t pull it up.”
 b. **trih-in ak-inad*
 pull-1SG.IPST go.up-3SG.PROH

We see, then, that the reanalysis of immediate past suffixes, which are the most unmarked tense category in the Sogeram languages, begins with the simple juxtaposition of two immediate past sentences. As these two sentences become integrated, the immediate past suffix on the first sentence becomes reanalyzed as a different-subject medial suffix. This is made possible by the fact that, in same-subject circumstances, the same-subject suffix is much preferred, giving rise to an association between the immediate past suffix and different-subject meaning. This reanalysis enables the suffix to be used in idiomatic constructions that require a different-subject verb — at which point the reanalysis has already reached a fairly advanced stage, but no rules of the old grammar have yet been violated. Eventually the immediate past suffix begins to be used in sentences of other tenses, at which point it has been fully reanalyzed as a medial suffix. Thus two sentences have coalesced into one via the reanalysis of final morphology as medial morphology; this

process has been completed in the 1PL forms in Nend and Manat, and is currently underway in the Manat 1SG. Relics of the process can be seen in the fact that the displacement of the older Manat switch reference suffix *-it* is less advanced in the more recent constructions along this reanalysis pathway. We now turn to another process of reanalysis that has taken place in the Sogeram languages.

5. The univerbation of clause combinations

Nend possesses a verb compounding construction that derives, etymologically, from two-verb clause chains. These compounds are “especially common in verbs expressing physical manipulation of an object” (Harris 1990:84). They are composed of an initial transitive verb root, a fossilized 3SG.DS suffix *-z* and a second, intransitive verb root. The object of the first root is the subject of the second; the verb *avizinge* “he threw it down and” in (29) is an example.

- Nend
 (29) *Ongirangen mba-n avi-zi-ŋg-e kirim ŋgañ-i.*
 sago.beater ND-ACC throw-3SG.DS-go.down-SS just sleep-3SG.IPST
 “He threw down his sago beater and just slept.” (Harris ms.)

The existence of common multi-clause collocations in Manat was noted above with the example *midapara- migu-* [*lit.* “erect go.down”] “bring up (a matter).” These sorts of two-verb expressions are common in all the Sogeram languages, and the construction is cognate with Nend compounds like *avizinge*, illustrated above. Pawley (1987) famously observed that in Kalam, another Madang language, events are often expressed using a small inventory of verb roots and the rich system of clause chaining; the Sogeram languages operate similarly. Many routinized pairings of verbs express common notions, like Manat *migra- aku-* [*lit.* “cut go.up”] “cut up,” illustrated in (30), where the speaker quotes two characters talking about cutting something up in the first two sentences, then describes how it was cut up in the third sentence. A similar construction in Apali is shown in (31).

- Manat
 (30) a. *Bid migr-in ak-itak-id=a?*
 good cut-2SG.DS go.up-IFUT-3SG=INT
 “Could you cut it up?”
 b. *Bid migr-it ak-itak-id.*
 good cut-1SG.DS go.up-IFUT-3SG
 “I can cut it up.”

- c. *Akei migra-s aku-ma-g.*
 okay cut-3SG.DS go.up-PST-3SG.FAR
 “So he cut it up.”

Apali

- (31) *Ik-iliŋ mig-ici sukuala-c-in maci aga-di.*
 cut-1SG.DS move.down-3SG.DS finish-FAR.PST-1SG sago DEF-ACC
 “I cut the sago down and finished it.” (Wade ms. b)

These two-verb collocations are fairly integrated syntactically, as demonstrated by their treatment in both tail-head linkage and Manat negation. Tail-head linkage is a common discourse phenomenon in clause-chaining Papuan languages in which the last verb or verbs of a clause chain are recapitulated as the first verb or verbs of the next chain (De Vries 2005). When these two-verb collocations appear in tail-head linkage, both verbs are repeated together, as the Manat (32) and Apali (33) examples below show. Note that these expressions, which mean “put inside” and “throw down,” respectively, both refer to the physical manipulation of an object. Recall also that the Sogeram languages tend to track a more grammatically defined notion of ‘subject’ with their switch reference systems, and note that the grammatical subject is strictly tracked in both examples even though the agent, in both cases, is more topical than the patient.

Manat

- (32) a. *Vu-n bata-n=a, hiđ gra-s vu-ma-g.*
 go-2/3.SS sit-2/3.SS=INT move put.in-3SG.DS go-PST-3SG.FAR
 “She went and sat, and put it inside.”
 b. *Gra-s vu-s=a, e?e ara-ma-g.*
 put.in-3SG.DS go-3SG.DS=INT oh say-PST-3SG.FAR
 “She put it inside, and he said, ‘Oh.’”

Apali

- (33) a. *Havili piŋ hen haval-avi-ci migu-i.*
 tree.sp base MD.LOC throw-PL-3.DS go.down-3SG.IPST
 “There at the base of the *havili* tree they threw it down.”
 b. *Nibu hadi sibam.*
 3SG.NOM big very
 “It was very big.”
 c. *Haval-avi-ci migu-ci ab-in Boni di ...*
 throw-PL-3SG.DS go.down-3SG.DS talk-1SG.IPST Boni ACC
 “They threw it down and I said to Boni ...” (Wade ms. b)

Negation in Manat is indicated with the negative particle *ma* before the verb and the contrastive suffix *-ip* after the verb, as illustrated in (34). When a two-verb collocation is negated, the negation morphemes can optionally bracket both verbs, as in example (35).

- Manat
 (34) *Ma miŋatama-nad-ip.*
 NEG hear-2SG.IPST-CTR
 “You didn’t hear.”

- Manat
 (35) *Zi ma ŋara-s v-in-ip.*
 1SG NEG speak-3SG.DS go-1SG.IPST-CTR
 “He didn’t let me go.” [*lit.* “He didn’t tell me and I didn’t go.”]

The behavior of these two-verb collocations in tail-head linkage and in Manat negation demonstrates a certain level of syntactic integration. Additionally, in these collocations, the object of the first verb is always the subject of the second verb, and the shared argument between the verbs creates another level of integration. These collocations, then, were probably fairly integrated both semantically and structurally in Proto-Sogeram, and represent a likely source construction for the univerbation that has occurred in Nend. As these collocations coalesced in Nend, it became possible for speakers to reanalyze them as a single verb stem in certain circumstances. Example (36), in which a fish breaks out of someone’s container, illustrates such an environment.

- Nend
 (36) a. *Mbikir hani~han mbana-mb-on-aŋg uyara-ma-r.*
 3SG.ACC MD~NMLZ ND.INT-NOM-very-also break.open-HIS.PST-3SG
 “His thing (container) itself broke open.”
 b. *Oma ha-mb uyi-zi-wari-ma-r.*
 fish MD-NOM stab-3SG.DS-break-HIS.PST-3SG
 “The fish burst out [*lit.* stabbed it and it broke].” (Harris ms.)

The former two-word expression *uyi- wari-* [stab break] “burst out, break (something) open” occurs at the end of the second clause. The agreement suffix *-r* “3SG” is ambiguous between the fish (which is singular, taking singular agreement later in the story) and the container. Before reanalysis, this suffix would have agreed with the patient (the container). But as the two-verb expression became more integrated, it came to be viewed as a single verb stem *uyiziwari-* “burst out” (which is how it is glossed in Harris ms.), and the suffix was reanalyzed as agreeing with the agent (the fish). This reanalysis was facilitated by the fact that Sogeram languages are subject-tracking, as opposed to more topic-tracking languages like Amele

(Roberts 1987): if the medial suffix in the two-verb collocation depended on the topichood considerations of the discourse, then the first verb in a sequence like *uyi- wari-* would occur sometimes with DS and sometimes with SS marking. This would lower the frequency of occurrence for both suffixes, and since grammaticalization and reanalysis occur with high-frequency constructions (Bybee 2006), this kind of reanalysis would be less likely.

Once this reanalysis had taken place, the suffixes at the end of these new verb stems began to agree with their subjects even in unambiguous environments. This may have begun in tail-head linkage constructions like (37). The first instance of *ηazipori-* “break”⁴ is the sort of ambiguous environment where reanalysis could have taken place. But when it is recapitulated, it is marked same-subject. Since the next clause, *osare* “she cleared it,” has the mother as the subject, the suffix on *pari-* should signal the non-identity between its own subject (the housetop) and the subject of the following clause (the mother). The fact that it does not indicates that the suffix is not on *pari-* “break (intr.),” but rather on *ηazipari-* “break open,” which has the mother as its subject.

Nend

- (37) a. *Akwoh-e miηir-iv oram ompir ηa-zi-pori-ma-r.*
 go.up-ss mother-NOM house top get-3SG.DS-break-HIS.PST-3SG
 “The mother went up and broke open the top of the house.”
- b. *ηa-zi-par-e osar-e siηgwam-e wa-z ...*
 get-3SG.DS-break-ss clear.off-ss put.down-ss see-3SG.DS
 “She made a hole and cleared it and put down and looked and ...”
 (Harris ms.)

However, much has been written about the many ways that Papuan switch reference fails to track the grammatical subject, so arguing that it is the compound verb *ηazipari-* that takes the same-subject suffix in (37) may strike some linguists as less than convincing. But the analogical extension continued, and after medial morphology changed to agree with the subject of the newly unverbated compound, final morphology followed, as in (38) and (39).

Nend

- (38) *Aria η-e avi-zi-ηgwi-v a-ma-r.*
 okay get-ss throw-3SG.DS-go.inside-2SG.IMP say-HIS.PST-3SG
 “She said, ‘Okay take the post and throw it down.’” (Harris ms.)

4. Verb stems like this one provide more evidence that these compounds are no longer composed of two separate clauses: the second element, *pori-*, can no longer be used except in compounds, and its synchronic meaning must be inferred from its contribution to the compound.

Nend

- (39) *Nd-e-m Asamizingang ha-ndih avi-zi-ŋgw-em-orin.*
 walk-SS-CONT Asamizingang MD-SETTING throw-3SG.DS-go.inside-YPST-1PL
 “We walked and there at Asamizingang we threw it down.” (Harris ms.)

Note that the suffix *-z* “3SG.DS” is now completely frozen inside these compounds (albeit with an epenthetic *i*). The notional subject of *avi-* “throw” in (38) is 2SG, and in (39) it is 1PL. But in both instances the 3SG switch reference suffix *-z* remains fossilized inside the compound, devoid of its original meaning.

It is clear, then, that these Nend clause chains have undergone univerbation and are now compound verbs. But the question remains: are these compound verbs still coordinate? Or, phrased in language more appropriate to the data at hand, are they double-headed? I submit that they are. The question of morphological headedness is a difficult one, but several features can shed light on the issue. Helpful treatments are given by Bauer (1990:2–3) and Arcodia (2012:367–369), and I have adapted from them the following criteria for establishing the headedness of compounds:

- a. A compound is a hyponym of (a ‘kind of’) its head;
- b. The head is the subcategorizand, the item which is subcategorized for the occurrence of other elements in the compound;
- c. The head is the morphosyntactic locus, the item from which morphosyntactic information ‘percolates’ to the entire compound;
- d. The head is the governor, the element which determines the morphological shape of some other element in the compound;
- e. The head is the distributional equivalent of the whole compound; and
- f. The head is the obligatory constituent in the compound.

With respect to criterion (a), these compounds are a hyponym of both verbs. Thus, *avi-zi-ŋgwi-* [throw-*zi*-go.inside], from (38) and (39), is a kind of *avi-* “throw”, namely the kind of *avi-* that results in *ŋgwi-*. But *avi-zi-ŋgwi-* is also a kind of *ŋgwi-* “go inside”, namely the kind that is caused by an *avi-* event. The semantics of these compounds are thus intersective: a compound only refers to events that are **both** a kind of V1 **and** a kind of V2.

As for (b), we can say that the first verb selects the second; that is, the causing event determines the possible results. Thus, *avi-* “throw” must be followed by a motion verb. But it is equally true that a motion verb can only be preceded, in this construction, by a verb of physical action like *avi-* “throw” or *akori-* “cut.” So this criterion supports a double-headed analysis.

Criterion (c) identifies V1 as the head. While there is an argument to be made that V2 is the ‘morphosyntactic locus’ simply by virtue of the fact that Nend verb

morphology is suffixing, such an argument would be less than convincing. Rather, although the notional subjects of the two verbs differ, as pointed out for (38) and (39), the verb that determines subject agreement is V1. The agreement specification of V1 can therefore be said to ‘percolate’ to the node that dominates V1 and V2, indicating that V1 is the head.

By criterion (d), however, we would consider V2 the head, as shown by the behavior of reduplicative morphology. The today past tense is formed with the suffix *~nd[RED]* — that is, a suffixed /-nd/ followed by reduplicated material from the verb, with an epenthetic /i/ inserted if needed. When this tense is suffixed to a V-*zi*-V compound, only V2 is copied, as in (40a). Note that this is not because the suffix only copies the last syllable: when it is attached to a long simplex verb root, such as *ampiha*- “weave,” it copies material from three syllables, as shown in (40b).

Nend

- (40) a. *akori-zi-ŋga~ndiŋg-i*
 cut-3SG.DS-descend~TPST-3SG
 “s/he cut it down (earlier today)”
- b. *ampiha~ndampiħ-i*
 weave~TPST-3SG
 “s/he wove it (earlier today)”

Criterion (e) selects both verbs as the head: being verbs, they have the same distribution as the compound, which is also a verb. One can argue, however, that because both V1 and the compound verb are transitive, V1 has a distribution that more closely resembles that of the compound, and should therefore be considered the head.

Criterion (f) selects both verbs because both are obligatory, in keeping with the definition of the construction. Additionally, there are certain roots that only occur in the V-*zi*-V construction, and therefore require the presence of another verb to be grammatical. These verbs include both V1 verbs (such as *avi*- “throw”) and V2 verbs (such as *pari*- “break (intr.)”), so both positions can be said to be obligatory and to satisfy criterion (f).

These criteria, as summarized in Table 6, demonstrate that head properties are distributed evenly between V1 and V2 in the Nend compounds, and as such they are best regarded as double-headed. The coordinate nature of the source construction has therefore been retained in the Nend compounds, in spite of the significant amount of coalescence that has taken place.

Table 6. Headedness properties of Nend V-*zi*-V compounds (D = double-headed, V1 = V1 is the head, V2 = V2 is the head).

Criterion	a	b	c	d	e	f
Head	D	D	V1	V2	D (or V1)	D

In this section we have seen that frequent pairings of verb roots, combined with a relatively strictly subject-tracking switch reference system, have allowed for the creation of compound Nend verb stems containing fossilized switch reference morphology inside them. This process of univerbation began when the two verb roots, along with the switch reference marker between them, were reanalyzed as constituting a single verb stem in situations where verb agreement was ambiguous. After this reanalysis had taken place, the new agreement pattern was extended to other contexts, possibly with the help of the tail-head linkage construction, and a new class of coordinate Nend verb compounds was created.

6. Discussion and conclusion

Having examined two case studies of syntactic change in the Sogeram languages, it is time to revisit Hopper & Traugott's (2003: 177) "cline of clause combining" and place the Sogeram data in broader theoretical perspective:

parataxis > hypotaxis > subordination

The first innovation, whereby two sentences merged into one via the reanalysis of final morphology as medial morphology, occurred with the 1PL.IPST forms in Nend and Manat (whether independently or through contact, it is not clear), and is occurring again in Manat with the 1SG.IPST form. It constitutes a clear illustration of the first stage along this continuum, the change from parataxis to hypotaxis. Under certain circumstances, two sentences placed side by side, as in (22), can be reanalyzed as having a hypotactic relationship. The first sentence becomes dependent on the second for its tense information, but is not subordinate to it structurally (25). As mentioned, this is similar to the change that De Vries (2010) discusses in the Dumut family, although in that case the process created a new switch reference system, whereas here it recruited new morphology for a switch reference system that already existed.

The second innovation, the reanalysis of two adjacent clauses as a single word, occurred in Nend; this innovation does not fit well into Hopper & Traugott's continuum. The construction began as a hypotactic clause chain, and remains so in the languages other than Nend, but when the two clauses merged in Nend, they did not do so in the expected way: neither verb root in the compound construction

can be said to be subordinate to the other. In fact, their relationship to one another has changed remarkably little throughout the process of coalescence. There is no doubt that complex coordinate constructions do often undergo the kind of subordination that is expected, whether in clause chaining languages like Lhasa Tibetan (DeLancey 1991) and Manambu (Aikhenvald 2009), or non-chaining languages like Swedish (Hilpert & Koops 2008). But the Nend compounds represent a form of diachronic clause coalescence in which neither clause has become subordinate to the other, but in which the two have rather remained in a coordinate relationship.

This is not to say that these compounds could not eventually become asymmetrical in some way. Crowley (2002), for example, observes that Proto-Oceanic serial verb constructions have yielded apparently coordinate V–V compounds in Manam that are quite similar to Nend *V-zi-V* compounds, as illustrated in (41). But in other languages the result of integration has been asymmetrical: serialized Proto-Oceanic verbs became resultative particles in Numbami, derivational suffixes in V'ënen Taut and derivational prefixes in Iduna (Crowley 2002: 176–177).

Manam

(41) *ʔai i-zan-sereʔ-i.*

stick 3SG-punch-split-3SG

‘S/he split the stick lengthwise.’

(Bradshaw 1982: 34, cited in Crowley 2002: 176)

So the persistence of coordination need not be indefinite: the Nend compounds might still become asymmetrical at some point in the future, as has happened in several Oceanic languages. But it is clear that the introduction of subordination does not necessarily go hand in hand with increased integration. The two processes are separable, as demonstrated by the fact that integration has taken place in Nend without subordination. What is more, it seems that the cross-linguistic impulse towards increased integration is stronger than the impulse towards increased subordination, for the former applies in every instance while the latter need not always apply. What remains to be discovered is, when integration takes place in complex constructions, what factors promote the concomitant development of subordination and what factors hinder it.

Abbreviations

The glosses follow the Leipzig glossing conventions, including the use of a tilde ~ to indicate that a morpheme is formed by reduplication. The following less common glosses are used:

COMP	completive	IPST	immediate past
CONT	continuous	MD	middle demonstrative
CTR	contrast	ND	near demonstrative
DS	different subject	NMLZ	nominalizer
FD	far demonstrative	PROH	prohibitive
FAR	far (tense)	PST	past
FUT	future	Q	interrogative
HAB	habitual	RPST	recent past
HIS	historic (tense)	SIM	simultaneous
IFUT	immediate future	SPEC	specific
IMP	imperative	SS	same subject
INDF	indefinite	TPST	today past
INT	intensifier	YPST	yesterday past

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Résumé

Le présent article traite de deux innovations qui ont affecté le système d'enchaînement de propositions (*clause chaining*) dans les langues Sogeram de Papouasie Nouvelle-Guinée. La première de ces innovations concerne la morphologie verbale de fin de chaîne, qui a été réanalysée en morphologie médiane, le pronom sujet étant réinterprété comme un marqueur d'alternance de sujet (*switch reference*) du type "sujet différent". La seconde innovation correspond à la lexicalisation de certaines séries verbales récurrentes dans le discours, réinterprétées comme des verbes composés. On a proposé autrefois que l'intégration structurale entre propositions donnait nécessairement lieu à une dissymétrie structural (subordination); pourtant, les données du Sogeram constituent un contre-exemple à cette généralisation. Certes, les deux innovations citées correspondent bien à la tendance universelle vers davantage d'intégration structurale; mais seule la première de ces innovations obéit à la tendance vers la dissymétrie. Cet article propose donc qu'à partir de constructions coordinatives comme les enchaînements de propositions, il peut certes arriver qu'une proposition devienne subordonnée à l'autre, mais qu'il est également tout à fait possible que les propositions préservent une relation symétrique du type coordination, alors même qu'elles deviennent syntaxiquement plus intégrées.

Zusammenfassung

In diesem Artikel analysiere ich zwei Innovationen im Satzverkettungssystem der Sogeram-Sprachen in Papua Neuguinea. Die erste Innovation besteht aus der Reanalyse ketten-finaler Morpheme als ketten-medialer Morpheme mit switch-reference Bedeutung. Die zweite Innovation besteht aus der Reanalyse von häufigen Verbkollokaten in einer Satzreihe als ein einzelner Kompositumsverbstamm. Im Gegensatz zu früheren Analysen, gemäß derer zunehmende strukturelle Integration von Teilsätzen in struktureller Asymmetrie resultiert, zeigen die Sogeram-Daten, daß dies nicht notwendigerweise der Fall sein muss. Der typologisch attestierte Trend in Richtung zunehmender Integration liegt in beiden Innovationen

vor, der Trend in Richtung Asymmetrie nur in der ersteren. Ich argumentiere daher, dass mit Koordinationsstrukturen wie diesen Satzketten ein Teilsatz dem anderen untergeordnet werden kann, dass aber beide Teilsätze auch ihre Koordinationsstruktur während der Integration behalten können.

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