Clause chaining is asymmetric vP coordination

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1 Introduction

A wealth of work in functional-typological linguistics posits a *sui generis* construction called "clause chaining", attributing various specific properties to it (see for instance Dooley (2010a,b) and the works cited therein). In this paper I argue that the special notion of clause chaining is epiphenomenal. Once a few independent language-specific properties are factored out, the construction is indistinguishable from asymmetric vP coordination (Postal (1998), Culicover and Jackendoff (1997), Bjorkman (2011)). In my argument I have recourse to a fine syntactic analysis of data from Kĩsêdjê (Jê, Brazil) collected over 8 fieldtrips since 2008, plus supplementary data found in the literature about Mbyá (Guarani, South America, Dooley (2010b)), Kanite (Trans New Guinea, Papua New Guinea, McCarthy (1965)), Amele (Trans New Guinea, Papua New Guinea, Roberts (1988)) and Pima (Uzo-Aztecan, Arizona, Langdon and Munro (1979)).

The interest in dispensing with the special notion of *clause-chaining* doesn't only stem from Occam's Razor. Clausal coordination and, in particular, the contrast between symmetric and asymmetric clausal coordination is far from well-understood (see Bjorkman (2011); Culicover and Jackendoff (1997); Postal (1998); Progovac (1998a,b)). By broadening the range of languages where the properties of coordination can be investigated I expect to be contributing new sources of data for understanding its properties.

This paper is organized in the following fashion: in section 2 I proceed to a preliminary investigation of the topology of the Kĩsêdjê clause, which constitutes a prerequisite for the discussion undertook in the rest of this paper. In section 7, I detail my claim that, once some independent language-specific properties have been factored out, chaining is basically asymmetric vP coordination. Section 12 offers a few closing remarks.

2 The structure of the Kĩsêdjê clause

When I argue that clause chaining is indistinguishable from asymmetric clausal coordination, I will need to make reference to the size of the constituents involved. In particular, I will need to determine whether they are vPs, IPs or CPs, since I will derive one of the prototypical traits attributed to clause chains, operator dependence, from an analysis where the construction that gets labeled as clause chain is but the coordination of vPs under a single IP layer.

Given the standard assumption that vP is dominated by IP and that IP is dominated by CP, I would minimally need to locate Infl in the relevant languages. If a clausal constituent doesn't include that category but includes a subject, it must be a vP. If it includes that category and no extra functional categories, it must be an IP. If it includes that category and further functional categories, it must be a CP.

The scenario gets more complicated once we start considering the possibility of null functional heads. I will adopt the assumption that, in the absence of strong and clear evidence, such heads are simply not there. Null heads would be very challenging to acquire, unless we assume infants' language acquisition devices come ready with an elaborate skeleton of universal functional categories so that children only needs to fill that skeleton out with morphemes, either visible or invisible.

There is a second complication, of a different nature: the lack of literature discussing the functional structure of the languages in which clause chains have been identified. That is simply due to the absolute scarcity of literature on those fieldwork-type languages. In this chapter I will discuss the functional structure of Kĩsêdjê, for which I've been able to collect specific judgments. Once this section is over, my reader will be able to appreciate how difficult it would be to proceed to a similar investigation for the other relevant languages based solely on data scrounged from the literature on clause chains.

Unlike English, Kĩsêdjê doesn't mark its clauses for tense —(1). If we assume that tense-marking is a necessary characteristic of Infl, we are forced to conclude that Kĩsêdjê's Infl head is always null, thereby giving up any hopes of distinguishing clausal constituents of different sizes. Rather than making that assumption, which at the very least is incompatible with the model of acquisition I support, I will adopt Ritter and Wiltschko's (2008) suggestion that different languages can have their clauses headed by elements expressing semantic categories other than Tense. That is to say, $\text{Infl}_{\text{tense}}$ is just one of the possibilities.

In Kĩsêdjê there is a set of particles which are in complementary distribution with each other and occur exclusively and obligatorily in finite clauses. Those particles are furthermore correlated with nominative case assignment to subjects. These seem to be the kind of syntactic traits we expect from the element that heads finite clauses. That Kĩsêdjê particle doesn't carry tense semantics, though: it has a modal meaning. Given possibility open by Ritter and Wiltschko's (2008) suggestion, I will pursue the hypothesis that these modal particles instance Infl in Kĩsêdjê.

(1) ∅ Pasi=ra thẽ
FACT.NF P.=NOM go
'P. is gone/going'

Table 1 lists the different values of the Kĩsêdjê modal particle, some of which select for a specifier that receives specific semantics. In (2) you find example sentences containing each of those particles.

form	meaning	specifier
man	witnessed	*no specifier*
hẽn/=n(a)/∅	factual non-future	subject/topic/focus
waj	inferential non-future	*no specifier*
arân	counterfactual	C.F. restrictor
kê/∅	factual future	*no specifier*
kôt	inferential future	focus

Table 1: World Particles

(2) Examples of the use of the modal particles

a. [man] ngô thyk=ta ta
WIT[1] coffee=NOM stand
'There is coffee (in the thermos).'

b. Ngaj=[na] ngô thyk nhihwêrê
N.=FACT coffee make
'It is N. who makes/made the coffee.'

c. [waj] ngô thyk=ta ta
INF coffee=NOM stand
'There must be coffee (left)'

d. [ngô thyk=[arân] wa ∅-tho.ikhõ
coffee=COUNT 1_{nom} 3_{abs}-drink
'If there were coffee I would drink it'

e. [kê] ngô thyk=ta ta
FACT.FUT coffee=NOM stand
'There will be coffee'

f. nhũm=[kôt] ngô thyk nhihwêrê?
who=INF.FUT coffee make
'Who would make the coffee?'

I pursue the hypothesis that those modal particles instance Infl in Kĩsêdjê because they have the syntactic properties usually attributed to the element heading finite clauses. In section 3 I detail why these particles define finiteness in Kĩsêdjê and how they are related to nominative case assignment. In section 4 I apply Ritter and Wiltschko's (2008) Infl diagnostics to these particles, and in section 5 I relate the semantics of the modal particles to the generalized Infl semantics proposed by Ritter and Wiltschko (2008).

3 Modal particles license nominative

Ritter and Wiltschko (2008) identify common syntactic properties among English tense marking, Halkomelem location marking and Blackfoot person marking that they argue indicate their common status as Infl. In section 4 I will show that Kĩsêdjê modal marking also instantiate those properties. But first I would like to observe that the Kĩsêdjê modal marking head has the property usually attributed to Infl of licensing nominative case[2].

Note that the categories Ritter and Wiltschko (2010) identify as Infl in Halkomelem and Blackfoot don't have the property of assigning nominative case, which fact could be in principle used as evidence that those categories are something other than Infl. Ritter and Wiltschko respond to that difficulty by claiming that only $\text{Infl}_{\text{tense}}$ licenses nominative case, a state of affairs they argue follows straightforwardly from the combination of their own framework and the hypothesis, due to Pesetsky and Torrego

[1]The abbreviations used in this paper are: 1 = 1st person; 2 = 2nd person; 3 = 3rd person; $_{nom}$ = nominative; $_{erg}$ = ergative; $_{acc}$ = accusative; $_{abs}$ = absolutive; FACT = factual; COUNTER = counterfactual; INF = inferential; FUT = future; POSS = possessive; WIT = witnessed; $_{emb}$ = embedded form

[2]I believe the idea that Infl licenses nominative should be attributed to Vergnaud 1977.

(2001), that nominative case on nominals is an uninterpretable instance of a tense feature on Infl (though note that Pesetsky and Torrego 2001 restrict their discussion of Case to English).

If the claim that only $\text{Infl}_{\text{tense}}$ licenses nominative case is indeed true, the correlation I'm about to discuss between the Kĩsêdjê modal particles and nominative case licensing is a mere coincidence. Moreover, Kĩsêdjê would apparently not be the only language where that coincidence holds: Aissen (1992) presents an account of three Mayan languages where nominative licensing is correlated to the presence of Aspectual Inflection.

Note that in Halkomelem and Blackfoot nominals don't seem to comport case distictions at all. Ritter and Wiltschko point out that case distinctions in those languages are not only absent at the morphological level, there also don't seem to be any processes or restrictions that can could be linked to an underlying case distinction.

In order to be able to explain the correlation found in English, Kĩsêdjê and Mayan between Infl and nominative case licensing, while still leaving room for languages like Halkomelem and Blackfoot, which don't seem to make case distinctions at all, I only need to propose that in languages that make case distinctions nominative case is licensed by Infl.

With that assumption in place, we can proceed to investigate the Kĩsêdjê case paradigm. In Kĩsêdjê, a split ergative language, the presence of a modal particle in a clause is linked to the nominative-accusative frame, whereas its absence is liked to the ergative-absolutive frame. Main clauses, where the presence of a modal particle is obligatory, display nominative-accusative arguments, whereas embedded clauses, which can't take modal particles, have ergative-absolutive arguments —compare the main clause and embedded clause in (3).

(3) Finite main and non-finite embedded clauses
*(hẽn) **wa** [hwĩkhá(*= n) khãm **a**-pôt] jarẽ
(FACT) 1_{nom} [car(=FACT) in 2_{abs}-go_{emb}] say
'I said that you arrived in the car'

A paradigm like that instanced in (3) above is typically found in languages that distinguish finite from non-finite clauses: finite clauses are headed by (finite) Infl and license nominative subjects, whereas non-finite clauses, not being headed by by Infl (or being headed by a non-finite version of it), don't license nominative subjects. If the Kĩsêdjê modal particle is the category that heads finite clauses, the paradigm in (3) can be explaining by simply adding that in Kĩsêdjê embedded clauses are exclusively non-finite.

Languages can vary as to the possibility of assigning case the subject of a non-finite clause. In Latin, for one, subjects of non-finite clauses would be assigned accusative case. In Kĩsêdjê they get ergative case.

Table 2 below list the Kĩsêdjê pronouns. Note that accusative is distinguished from absolutive only in the 3rd person. Number is represented by a separated morpheme which is not part of the same pronominal system. Since number doesn't participate in the case split, it doesn't need to figure in this discussion.

person	nominative	ergative	absolutive	accusative
1	wa	ˈire	i-	
2	ka	ˈkare	a-	
1+2	ku	ˈkware	wa-	
3	∅	ˈkôre	s-/∅-	khu-

Table 2: Pronouns

Morphophonologically, ergative pronouns are free forms, overt nominative pronouns are enclitics (or, more precisely, left-leaners, Zwicky 1982), and accusative and absolutive pronouns are prefixed to the head selecting them.

Pronouns in the ergative series seem to share a morpheme, very likely the causative postposition 're' (4). The relation between the postposition and the ergative pronouns must be diachronic, though, since the postposition 're' doesn't seem to take anything but clausal complements (5).

(4) ∅ i-nã=ra i-kahrĩ=re mbârâ
FACT 1_{abs}-mother=NOM 1_{abs}-pity=out.of cry
'My mother is crying out of pity for me'

(5) *∅ i-nã=ra i-re mbârâ
FACT 1_{abs}-mother=NOM 1_{abs}-out.of cry
'My mother is crying out of me'

Non-pronominal arguments are marked with case enclitics. A null enclitic marks absolutive and accusative non-pronominal arguments (6). The enclicit 're' marks ergative non-pronominal arguments —remember that 're' also marks ergative pronominal arguments. The ergative-marking enclitic 're' is in stylistic (and possibly generational) variation with 'ra' (7), the latter also marking nominative non-pronominal arguments (8).

(6) [DP=**∅**]$_{abs/acc}$

a. hẽn ∅ i-nã=**{∅**/*re/*ra} mu
FACT 3_{nom} 1_{abs}-mother=ACC see
'He saw my mother'

b. hẽn ∅ [i-nã=**{∅**/*re/*ra} thẽm] mu
FACT 3_{nom} [1_{abs}-mother=ABS go_{emb}] see
'He saw my mother going'

(7) [DP=**re**/**ra**]$_{erg}$

a. hẽn ∅ [i-nã=**{re**/**ra**/*∅} khuru] mu
FACT 3_{nom} [1_{abs}-mother=ERG eat_{emb}] see
'He saw my mother eating'

(8) [DP=**ra**]$_{nom}$

a. ∅ i-nã=**{ra**/*re/*∅} mbârâ
FACT 1_{abs}-mother=NOM cry
'My mother cried'

b. ∅ i-nã=**{ra**/*re/*∅} khu-ku
FACT 1_{abs}-mother=NOM 3_{acc}-eat
'My mother ate it'

Besides the correlation already mentioned between modal particles, obligatory in finite clauses, and nominative subjects —see example (3)—, modal particles are related to nominative assignment in yet another way: when the verb phrase in a main clause is headed by certain modifiers, among which sentential negation and prospective future, modal particles become optional, which in my terms is equivalent to saying that main clauses whose verb phrases are headed by those modifiers can be optionally non-finite. As expected if the Kĩsêdjê modal particles indeed instantiate Infl, nominative subjects are only licensed in such clauses if the modal particle is present. Conversely, if no modal particle is present, nominative is ungrammatical, subjects being marked as ergative —compare (9-a) and (9-b).

(9) Optionally non-finite main clauses

a. **ire** ∅-khuru khêrê
I_{erg} 3_{abs}-eat_{emb} not
'I didn't eat it'

b. tep wit=na **wa** ∅-khuru khêrê
fish only=FACT 1_{nom} 3_{abs}-eat_{emb} not
'Only fish I didn't eat.'

In Kĩsêdjê, ergative seems to be assigned along the lines of the system proposed by Woolford (1997)'s, that is to say, by v to the external argument that is introduced as its specifier position. A particular characteristic of the Kĩsêdjê system is for ergative to only be assigned when nominative-assigning Infl is absent. That could be modeled as Infl subcategorizing exclusively for vPs headed by the type of v which doesn't assign ergative case. That would be why when Infl is present nominative is assigned to the subject and accusative to the object. In its absence, the only way for the subject of a non-finite clause to get case is for the vP to be headed by the ergative-absolutive assigning kind of v. I am glossing over some complications of the Kĩsêdjê case system, whose investigation system would merit a paper of its own. For our current purposes, it is enough to realize that nominative is only available in clauses bearing a modal particle, which constitutes an argument that these particles are responsible for assigning nominative case. The most parsimonious way of reconciling that fact into the theory is by assuming those particles instance Infl. In the next section I will discuss further ways in which the modal particles pattern with Tense Infl as instanced in European languages.

4 The properties Ritter and Wiltschko (2008) attribute to Infl

Some of the Infl properties discussed by Ritter and Wiltschko (2008) are general properties of functional categories, that is, properties that distinguish functional categories from lexical modifiers such as adverbs. I will begin this section by showing that Kĩsêdjê modal particles have two such properties, and then move on to one Infl property proper. Ritter and Wiltschko propose more than only those three properties. Those, however, are the only ones that can be conclusively tested in Kĩsêdjê.

Functional head property 1: Functional heads can occur only once in a given domain, whereas lexical modifiers aren't thus restricted.

English allows multiple adverbial modifiers to pleonastically express past tense, as can be seen in (10) below. The same isn't true of multiple tense inflexion (11). That would be due to the fact that inflection, as a functional category, corresponds to a single well-defined position in the structure of the clause.

(10) He cut paper squares before in the past.

(11) *He didn't did it.

Kĩsêdjê's modal particles occur only once per finite clause, besides being in complementary distribution with each other. That is to say, they have *Property 1*. Below I will try to come up with a context in which it would be plausible to use two different modal particles in the same finite clause, and then proceed to show that the resulting sentence is ungrammatical.

First note that dislocation is obligatory in factual questions, the questioned constituent being positioned as the specifier of a factual particle —(12) is a question inflected as factual. Now look at an affirmative conterfactual (13). In contrast to the factual question in (12), in a counterfactual question the questioned constituent stays in situ (14). We certainly can't move the questioned constituent to the already occupied specifier position of the counterfactual particle, but we also can't add a modal particle *hẽn/n(a)* in order to implement question dislocation. That is arguably due to those particles competing for the same position, Infl.

(12) Obligatory focus dislocation
Kupyt=ta wâtâ*(=n) kakô?
K.=NOM what*(=FACT) play
'What instrument is K. playing?'

(13) Affirmative counterfactual
Kupyt=ta s-õ si kakôrô arân ka ngõrõ
K.=NOM 3_{abs}-POSS instrument $play_{emb}$ COUNT 2_{nom} sleep
'If K. were playing his flute you would be sleeping.'

(14) Forbidden focus dislocation in counterfactual questions
Kupyt=ta wâtâ(*=n) kakôrô arân ka ngõrõ?
K.=NOM what(*=FACT) $play_{emb}$ COUNT 2_{nom} sleep
'What instrument is such that you would be sleeping if K. were playing it?'

There is an alternative explanation to the ungrammaticality of (14), namely, a putative impossibility of embedding a word with factual meaning inside a counterfactual environment. That alternative explanation is straightforward to discard. It is simply not true that you can't embed a word with factual meaning inside a counterfactual environment. Check the English example below (15). In this example we can see that if the factual-meaning word is an adverb, it is in fact possible to embed it in a counterfactual environment.

(15) Factual adverb embedded in counterfactual enviromnent
If he actually were a doctor, he would know what to do now.

We are forced to conclude, therefore, that it is something else that forces in-situ questions in Kĩsêdjê counterfactuals. Plausibly, the same thing forbidding double tense in English, that is to say, the fact that each sentence hosts a unique Infl head: in English that head marks tense, in Kĩsêdjê that head marks modality.

Functional head property 2: Only functional heads, but no lexical modifiers, can have null allomorphs.

Though a number of linguistic analyzes have recourse to null lexical modifiers, such words would pose a big challenge for acquisition. If null modifiers were possible, for every sentence an infant came across, they would have to ask themselves whether

it contains one or more null lexical modifiers. Null functional heads, on the other hand, are easier to detect, as long as they form part of a paradigm with overt counterparts. Since functional heads are obligatory in their domains, an infant can automatically assume, in the absence of an overt value, that the domain contains the null version of that head. Though such difficulty by itself doesn't constitute a final argument against the existence of null lexical modifiers, it certainly indicates that their existence should be considered fragile, and that learner-triggered change would more often than not have the effect of weeding null lexical modifiers out of languages.

Be that as it may, Kĩsêdjê's modal particles have *Property 2*: the modal particle *kê* is null when the subject is 1st or 2nd (16-a) and optionally null otherwise (16-b). The modal particle *hẽn* is optionally null with third person subjects (17-a) and obligatory otherwise (17-b).

(16) *Kê*'s null allomorph

a. {∅/*kê} wa khu-ku
FACT.FUT 1_{nom} 3_{acc}-eat
'I will eat it'

b. (kê) ∅ khu-ku
FACT.FUT 3_{nom} 3_{acc}-eat
'He/she will eat it'

(17) *Hẽn*'s null allomorph

a. (hẽn) ∅ khu-ku
FACT 3_{nom} 3_{acc}-eat
'He/she ate it'

b. *(hẽn) wa khu-ku
FACT 1_{nom} 3_{acc}-eat
'I ate it'

Ritter and Wiltschko argue that a head only needs to be functional in order to pass those two tests. In order to ascertain that a functional head so diagnosed is indeed Infl, as opposed to, say, Voice or Complementizer, we have to further show that it has specific Infl-like syntactic properties. In section 3 I showed that modal particles are correlated with nominative licensing. Below I apply a test proposed by Ritter and Wiltschko, based on another such property, namely, the local relationship Infl entertains with C.

Infl property If a functional head instantiates Infl, it is dominated by C, and therefore c-selected by it. We expect a functional head that instantiates Infl to be obligatory in certain kinds of clauses and absent from others, possibly coming in different flavors selected by different types of C.

Modal particles are absent from embedded clauses (18) (i.e. in Kĩsêdjê embedded clauses are all non-finite[3]).

(18) No modal particles in Embedded clauses
hẽn wa [(*kôt) a-thẽm] mba
FACT 1_{nom} [(*INF.FUT) 2_{abs}-$fall_{emb}$] know
'I know you (*may) fall'

Modal particles are also absent from imperative sentences (19). In main finite clauses the presence of a modal particle is obligatory (20).

(19) No modal particles in imperatives
(*kê) rik thẽ!
FACT.FUT quick go
'Go (quickly)!'

(20) Obligatory modal particle in main clauses
*(kôt) ka thãmã
INF.FUT 2_{nom} fall
'You may fall'

Though Ritter and Wiltschko's (2008) diagnostics don't necessarily constitute conclusive evidence that an element instantiates Infl, they are good indications of it. At the end of the day, I believe a clear correlation with nominative case licensing (as discussed in section 3) makes a stronger case for the status of a head as Infl (at least in languages which make case distinctions). Since besides Ritter and Wiltschko's properties Kĩsêdjê's modal particles are also involved in nominative case licensing, I will assume that they correspond to Infl in Kĩsêdjê and use their presence as an indicator that a clausal constituent is larger than IP.

[3]In fact, Kĩsêdjê's embedded clauses can be analyzed as nominalizations, along the lines of Salanova's (2007) analysis of embedded clauses in the closely related language Mẽbengokre

Note that in so doing I'm accepting Ritter and Wiltschko's (2008)'s proposal of discarding the label TP in favor of the more general and meaning neutral label IP. In some languages the substantive content of Infl is Tense, in other, like Kĩsêdjê, it has a modal meaning.

5 The Semantics of Infl

Ritter and Wiltschko propose that Infl has the generalized semantics of relating the reported situation[4]. According to them, whereas in English that argument is *Time*, it is *Location* in Halkomelem (Salish), and *Participant* in Blackfoot (Algonquian). Within that framework, past and present tense in English translate respectively into the relations $t_u > t_r$ and $t_u = t_r$, that is, past tense inflection states that the time of the utterance situation is posterior to the time of the reported situation[5], and present tense means "the time of the utterance situation is the same as the time of the reported situation". In Halkomelem, $\text{Infl}_{\text{location}}$ is either distal or proximal. Distal would translate into the relation $l_u \neq l_r$ and proximal into the relation $l_u = l_r$. The relation established by $\text{Infl}_{\text{participant}}$ in Blackfoot is more elaborated than those established by $\text{Infl}_{\text{tense}}$ and $\text{Infl}_{\text{location}}$ and for its characterization I refer the reader to the original paper.

Kĩsêdjê's modal particles can be described as relating the reported situation to the utterance situation in terms of *worlds*. Given the framework proposed by Ritter and Wiltschko, I will argue that these "modal particles" constitute the different values of Kĩsêdjê's Infl[6]. The set of Kĩsêdjê *modal particles* their meaning and the meaning each of them attributes to its specifier were listed in table 1, with some examples of the use of each modal particle given in (2).

Although for the current purposes it wouldn't be necessary to fully specify the denotations of the Kĩsêdjê modal particles, some general considerations show that their meaning falls under the general definition of Infl proposed by Ritter and Wiltschko (2008). More specifically, I will delineate how the Kĩsêdjê modal particles can be modeled as establishing a relation between the world of the reported situation and that of the utterance situation.

The Kĩsêdjê modal particles can be divided into three groups: there are two factual particles, two inferential particles and one counterfactual particle. One of the factual particles marks future events, while the other marks non-future events. The same contrast exists between the two inferential particles. The unique courterfactual particle is employed in future and non-future contexts alike.

The semantic entry of the factual particles *hẽn* (non-future) and *kê* (future) must include the relation $w_r = w_u$; that of the inferential particles *waj* (non-future) and *kôt* (future) the relation w_e *is epistemically accessible from* w_u; and that of the counterfactual particle *arân* the relation $w_e \neq w_u$. A treatment of the future/non-future contrast in terms of worlds could proceed along the general lines of the system proposed by Copley, 2009. She argues that the English auxiliaries *will/would*, rather than being tense markers, are manifestations of the modal "*woll*", which modal combines with past/non-past tense and gives rises to the surface morphological forms *will/would* (she attributes to Abusch 1985 the original idea of analyzing will/would into a modal plus a tense components).

If those considerations are on the right track, the meaning of the Kĩsêdjê modal particles makes them good candidates for Infl within Ritter and Wiltschko's (2008) framework. More important, though, than establishing that these particles have such semantics is to confirm that they have the right kind of syntactic properties, which is what I did in the two previous sections.

6 What you have to remember from this section

This section was meant to provide a minimal knowledge about the structure of the Kĩsêdjê clause in order to enable us to proceed to the main goal of this paper, namely, that of arguing that the construction that has been labeled in the functional literature as clause chaining is simply a case of asymmetric clausal coordination as instanced in languages by some particular confound-generating properties. The main points this section was meant to build to were 1) Kĩsêdjê's modal particles instantiate Infl and 2) Kĩsêdjê's embedded clauses are non-finite (i.e. don't contain Infl/Modal Particles).

[4]Their term is reported *eventuality*, which I discard for reasons having to do with the characterization of $\text{Infl}_{\text{tense}}$. to the utterance situation in terms of one of their arguments

[5]The time of the reported situation being the reference time

[6]In a later work (2010), Ritter and Wiltschko will attribute to *Comp* the role of relating the reported situation to the utterance situation in terms of worlds. Given their original definition of Infl from the 2008 paper, though, it doesn't seem to me that there is a principled way to exclude world-relating Infl.

7 Clause chaining is asymmetric vP coordination

Now that we know enough about the structure of at least one language where clause chaining can be identified, we are prepared to return to the main point of this paper. In section 8 I will present constructions in various languages that have the properties delimited in Dooley (2010/b), and then in section 9 I will show that, once we factor out certain independent language-specific properties, those constructions are indistinguishable from asymmetric vP coordination (see Postal, 1998, ch. 3).

My demonstration will rely heavily on data from Kĩsêdjê, which I complement with data from other chaining languages as described in the literature. Since not much relevant information about the syntactic structure of those languages can be found (chaining has been mostly identified in the understudied, "fieldword" type of language), I will assume they comply with a generalization due to Richards (2011) about the position of the subject in verb-final languages. The generalization is as follows: in verb-final languages the subject tends to stay in situ (bear with me until later when I will further develop this point).

It would be surprising if in the languages where chaining has been identified the only kind of clause combining construction were asymmetric vP coordination. In section 10 I will show that Kĩsêdjê also coordinates IPs. More specifically, I will show that Kĩsêdjê has an IP-combining construction that displays the same type of morphology as its vP-combining counterpart. This IP-combining construction doesn't comply with all of the properties described in Dooley (2010/b). Not surprisingly, the properties this IP-combining construction lacks with respect to the vP-combining are precisely the same ones IP coordination lacks with respect to vP coordination.

Lastly, I will show that chaining languages also seem to instance symmetric coordination 11, with expectedly different properties.

8 Clause chaining

According to Dooley (2010a), the prototypical clause chaining construction has properties (A)-(C). Dooley (2010b) gives evidence that amounts to property (D). I will take those properties for a diagnostics and proceed to identify a clause chaining construction in Kĩsêdjê. Note though that Dooley's goal was never to propose a formal diagnostics: he is solely describing the prototype of a construction, which is something he can do that in the theoretical framework his work subscribes to. My goal here is to factor that prototype into universal language-specific ingredients. I hope to demonstrate that the clause chaining prototype Dooley describes corresponds is actually asymmetric vP coordination in subject-in-situ languages.

(21) Properties of Clause Chains (Dooley 2010/b)
- (A) Each clause is individually asserted and advances the timeline of the discourse;
- (B) Though only one peripheral clause is inflected, all other clauses are interpreted as if identically inflected, and *may* furthermore be marked for switch-reference (e.g. same or different subject as the preceding clause);
- (C) The number of clauses in a chain isn't limited.
- (D) Constituents can be fronted in a non-ATB fashion from clause-chains.

The example (22) below exemplify properties (A), (B) and (D) of Kĩsêdjê clause chains. I will make reference to this example in the individual discussing each of those properties in what follows.

(22) Example of chain in Kĩsêdjê

[wâtâ =n ka Ø-khajtu][=nhy Canarana mã thẽ][=n a-mã khu- py]?
[what=FACT 2_{nom} 3_{abs}-order][=DS Canarana LOC go][=SS 2_{acc}-to 3_{acc}-get]?
'what$_i$ is such that gave him orders, he went to Canarana, and bought it$_i$ for you?'

(A) Each clause is individually asserted and advances the timeline of the discourse.

The first part of this property stands for the fact that each clause in a chain is asserted by itself, as opposed to constituting a presupposition of another clause. In order to understand what the difference would be, compare the subordinated counterpart to a simplified version of (22), (23) below, with its coordinated counterpart, (24). The when-clause of (23) is presupposed, as you can diagnose from the fact that it is taken to be true even if the sentence is negated (25). On the other hand, if (24) is negated, as in (26), the first conjoint isn't taken to be true anymore[7].

(23) When I gave him orders he went to Canarana.

[7] The semantics of (26) is actually not so simple. Negation could maybe also be applied to the connective, which would have the effect of denying a connection between my giving him orders and his trip. That is interesting but possibly besides the point.

(24) I gave him orders and he went to Canarana.

(25) It is not true that when I gave him orders he went to Canarana
... * because I didn't give him orders.

(26) Is is not true that I gave him orders and he went to Canarana
... because I didn't give him orders.

The second part of property (A) stands for the fact that in clause chains each clause is iconically interpreted with respect to the following clause, mostly as preceding it temporally, but sometimes also causally, as is the case for instance between the first and second clauses in (22). In fact, though in Kĩsêdjê the precise relation between those clauses is left ambiguous, there are languages whose richer morphology will actually help specify the relation that holds between adjacent clauses thus combined. See, for instance, the Kanite examples below (copied from McCarthy 1965).

(27) Simultaneous Action
a-ke-**n**-o-ke-no ne?-v-i-e
it-see-**simultaneous**-1s-DS-3s progressive-go-3s-indicative
'I was looking as he was going.'

(28) Consecutive Action
a-ke-**te**-?na u-kah-u-e
it-see-**consecutive**-1s go-will-1s-indicative
'I will first look and then go.'

Even in languages where that specification is at its richest, though, the iconic relation between the clauses is kept, with the preceding sentence being interpreted as somehow prior to the following sentence, as you can understand from an examination of the set of *switch-reference* markers of Eastern Pomo (Pomoan, USA) in table 3 (copied from Finer (1985, p. 47)).

Table 3: SR Markers in Eastern Pomo

	Same Subject	*Different Subject*
Action of suffixed verb precedes in time that of main verb	-ly	-qan
Action of suffixed verb (i) explains, justifies that of main verb; (ii) is simultaneous with that of main verb	-in	-sa (only meaning (i))
Action of suffixed verb is prior to and a prerequisite for the realization of the action expressed by the main verb.	-p^{h}i	-p^{h}ila
Action of main verb continues over same period or begins with time specified by suffixed verb.	-baya	-iday

(B) Though only one peripheral clause is inflected, all other clauses are interpreted as if identically inflected, and may furthermore be marked for switch-reference (e.g. same or different subject as the previous clause).

All the clauses in the chain (22) are interpreted as factual (remember from last section that Inflection in Kĩsêdjê has modal meaning), though only the first clause is explicitly marked with a factual particle (enclosed in a square). (29) below is a different example of chaining in Kĩsêdjê in which all the clauses are interpreted as *hypothetical future* even though, as in the previous example, only the first clause is explicitly marked with a modal particle (also enclosed in a square).

(29) Chain inflected as hypothetical future
[kôt Hwajitxi=ra hwĩsôsôk to nhy][=nhy Ajuwelu=ra hrõn=ne mbra]
[HYP.FUT H.=NOM paper with sit][=DS A.=NOM run=SS stay]
'H. could be writing and then A. could be running.'

In Kĩsêdjê, as well as in the Kanite examples provided above, adjacent clauses are connected by morphology that indicates whether their subjects are the same SS (same subject) or different DS (different subject). In Dooley's (2010) definition of clause chaining, though, switch-reference marking is an optional element. He indicates Korean as an example of a language with

chaining but no switch-reference marking. On the other hand, Hale (1992) presents some clear cases of *subordination* in Hopi (Uzo-Aztecan) that also display switch-reference marking (30). Since switch-reference marking is not a defining characteristics of clause chaining, it can't be claimed to relevantly distinguish it from asymmetric vP coordination as instanced in languages that don't mark switches in subject, as English.

(30) Switch-reference markers on clauses embedded as objects in Hopi

a. Nu' 'as [EC kweewa-t tu'i-ni-qa-**y**] naawakna.
I PRT [belt-ACC buy-FUT-NC-**ACC:SS**] want
'I want to buy a belt.'

b. Nu' ['i pava 'inu-ngam kweewa-t yuku-ni-qa-**t**] naawakna.
I [my bro me-for belt-ACC make-FUT-NC-**ACC:DS**] want
'I want my brother to make me a belt.'

(C) The number of clauses in a chain isn't limited.

Property (C) can only be inferred from the way long sequences of clauses are usually chained in discourse. An example of a 6-clause chain is given in (31). (For the sake of space I'm not transcribing the null third person nominative subjects that exists in each of the chained clauses.)

(31) A chain of six clauses

akatxi khêt=nhy Ø-thok=nhy aj thẽm=ne thep jarit mã=nhy Ø-khãm ngryk=ne Ø-thithiki
day not=DS 3_{abs}-wake.up=DS PL go=SS fish search INCEP=DS 3_{abs}-with be.angry=DS 3_{abs}-beat
'It was before dawn and he_i woke him_j up and $they_{i+j}$ were to go and look for fish and he_j became angry with him_i and beated him_i.'

(D) Constituents can be fronted in a non-ATB fashion from clause-chains.

In (22) the fronted constituent is linked with a single gap, in the last clause. Data on extraction from chains in other languages are rare in the literature, but where available seem to pattern with Kĩsêdjê. (32) below is an example from Mbyá (Guarani, Brazil, Dooley 2010b, p.105, ex.51).

(32) Non-ATB extraction from chain in Mbyá

Mava'e tu [nha-vaẽ ramo] [Ø nhane-mo-ngaru] 'rã?
who brusqueness [1+2-arrive DS] [3 1+2-CAUS-eat] FUT
'Who_i is such that we arrive and he_i will feed us?'

8.1 Chaining is at least a vP-combining operation

In the next section I will define asymmetric vP coordination and show how, once you factor out a few confounds due to independent language-specific properties, clause chaining can be reduced to asymmetric vP coordination. Before going there, though, it will be useful to first establish that property (B) of clause chaining can only be derived if, notwithstanding the status of that construction as coordination or otherwise, clause chaining combines clauses of the vP kind.

I can think of two ways[8] of formalizing the first half of clause-chaining property (B) —"Though only one peripheral clause is inflected, all other clauses are interpreted as if identically inflected...". I will go over one of those ways, discard it, then go over the second way, and accept it.

Chaining could be formalized as a construction that combines one IP with one or more vPs, the Infl head from that IP taking scope over the vPs in the chaining construction by some special mechanism, say, for concreteness, by the same mechanism whereby main-clause Infl takes scope over embedded-clause Infl in dependent tense scenarios.

That is how I have originally bracketed (22) above. Note that if we accept this IP-cum-vPs model, besides having to come up with a mechanism to make the Infl head from the inflected clause take scope over the uninflected clauses, we will also have

[8]There is actually a third way, which I'm not discussing here: a proposal due to Sohn (1995) meant to account for a similar tense dependence phenomenon in Korean coordination. She will propose that in tense dependence situations non-final conjunts are IPs headed by null anaphoric Infl. Such anaphoric heads will be coindexed with the next conjunct's Infl head, null or otherwise. She has to assume coordination has a very non-standard structure to get her proposal to work, besides other less obvious issues.

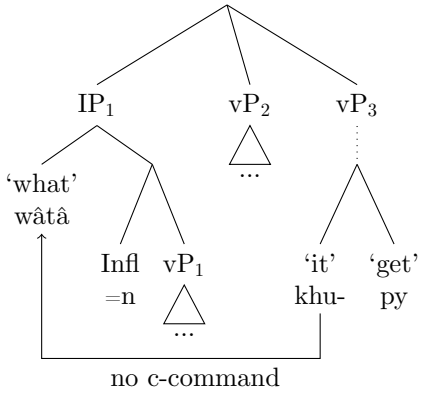
to deal with the troublesome structural relation between the dislocated question word and the base argumental position it is associated with. That relation is troublesome because in an IP-cum-vPs structure the position of the fronted constituent doesn't c-command its associated argumental position, as illustrated in the schematic representation of (22) given in (34-a) below ((22) is repeated below as (33) for your convenience). Though in (34-a) the IP is being represented as symmetrically combined with the vPs, the problem with the landing site not c-commanding the extraction site would also obtain in an asymmetric representation, as you can verify on (34-b).

(33) Example of chain in Kĩsêdjê

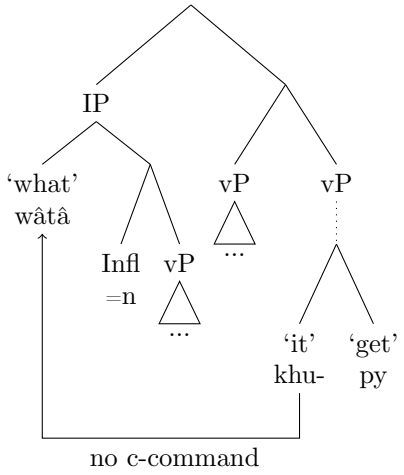
[$_{IP_1}$ wâtâ =n ka ∅-khajtu] [$_{vP_2}$ =nhy Canarana mã thẽ] [$_{vP_3}$ =n a-mã khu- py]?
[what=FACT 2_{nom} 3_{abs}-order] [=DS Canarana LOC go] [=SS 2_{acc}-to 3_{acc}-get]?
'what$_i$ is such that gave him orders, he went to Canarana, and bought it$_i$ for you?'

(34) Schematic representation of (33) in an IP-cum-vPs model.

a. Version 1

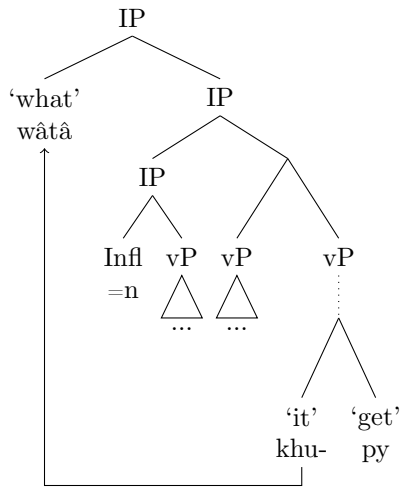


b. Version 2



The only way to combine an IP with vPs so that the movement's landing site c-commands its extraction site seems to be to have the vPs as adjuncts with attachment lower than Spec-IP. In (35), I've attached them to the IP itself, but attaching them anywhere lower would have the same effect.

(35) Schematic representation of (33) in an IP-cum-vPs model — Version 3



Chaining seems to be anything but adjunction, though. The clause chaining properties discussed above distinguish them from adjuncts, specially properties (A) —clauses in a clause chain are asserted, not presupposed, and advance the timeline of the discourse — and property (C) —the number of clauses in a chain isn't limited. Let me explain: temporal are often presupposed

information (see discussion of property A above) and they don't advance the timeline of the discourse, in the sense that an adjunct can be following a clause but providing information about an event prior to it — see (36). Furthermore, adjunct clauses are limited in number (37)[9].

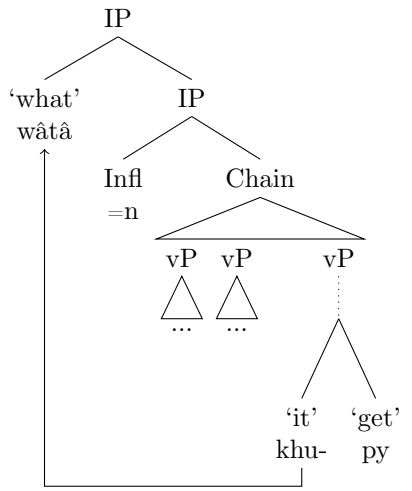
(36) I took a shower after I shaved.

(37) *When when it rained I came to the department it was closed.

As an alternative to the IP-cum-vPs theory I'm going to propose that chaining is actually a vP-combining construction dominated by a single IP.

This theory solves the problems observed with respect to the IP-cum-vPs model. The fact that only one clause seems to be inflected in clause chains (property B) is straightforward to explain: since the single Infl head dominating the whole vP-combining construction is necessarily outside of it, either to its left or to its right, making it look like only the leftmost, or only the rightmost, clause of the vP-combination is inflected. Such a characterization also naturally accounts for the fact that a single Infl takes scope over the whole chain. Furthermore, this account avoids the issue of a landing site that doesn't c-command its extraction site: after Infl merges with the vP-combination, it c-commands the combination as well as anything inside of it, and so does its Specifier, the site where the dislocated constituent lands (38).

(38) Chaining as a vP-combining



In fact, a very strong argument in favor of this latter model is the fact that in Inflection-initial languages the single inflected peripheral clause in a clause chain is invariably the first one and in Inflection-final languages it is always the last one (Dooley, 2010b, p. 8)[10]. This robust generalization would be harder to explain if we adopted the IP-cum-vPs theory. In the absence of special proviso, an IP-cum-vPs theory would predict the existence of Infl-initial languages where the last clause is inflected (because nothing short of a stipulation would prevent the combination of multiple vPs with a final IP) or a Infl-last language where the first clause is inflected. In a vP-combining theory of chaining, however, since the Infl-layer is merged to the vP-combination in the same way it would merge with a single vP, we predict that in languages where Infl combines to the left of a vP, it will combine to the left of the vP-chain, which is what creates the illusion that it is combining with the first of those vPs, whereas in languages where Infl combines to the right of vP, it will combine to the right of the vP-combination, creating thereby the illusion that it is combining only with the last of the vPs.

Kĩsêdjê shows, moreover, that this generalization is actually not about the general headedness of the language. Though Kĩsêdjê is generally right-headed, the headedness parameter inverts at the level of IP, with Infl is to the left of vP. As a result, in Kĩsêdjê the single clause that seems to get inflected in clause chains is actually the leftmost one, as we can see in the example provided in (22). In (39) below I'm rebracketing (22) according to the vP-combination theory of clause chains.

(39) A better bracketing

wâtâ =n [ka Ø-khajtu][=nhy Canarana mã thẽ][=n a-mã khu- py]?
what=FACT [2_{nom} 3_{abs}-order][=DS Canarana LOC go][=SS 2_{acc}-to 3_{acc}-get]?

[9] Though maybe that is an issue related to center embedding. Changing the complementizer in the embedded adverbial clause seems to improve the sentence — *?When after it rained I came to the department it was closed.*

[10] I thank Mark Baker for suggesting this argument to me.

'what$_i$ is such that you ordered him, he went to Canarana, and bought it$_i$ for you?'

A final argument for the vP-combining theory of chaining is the existence of chains with no inflected verb at all (40). In fact, if we took a strict stance on how the properties in (21) define chains, (40) wouldn't contain a chain, since by not having an inflected verb the embedded construction doesn't satisfy property (B). That is not an issue. The functional definition provided by Dooley is only intended as a *prototype* of clause chains.

The vP-combination theory predicts the existence of such chains, since it doesn't require a chain to be necessarily embedded under Infl. What we see in (40) below, for instance, is a clause chain embedded as the object of the verb 'wymba'. The fact that this chain isn't embedded under Infl is made further clear from the fact that the arguments of both chained clauses are marked as ergative-absolutive (which, remember from section 3, is a hallmark of embedded, Infl-less clauses).

(40) Chain embedded as a verbal argument

hẽn	wa	i-mã	[[	i-hrõ		thyk	][	=nhy	ire	mbaj	khêt	khêt	]] wymba
FACT	1_{nom}	1_{acc}-to	[[	1_{abs}-wife$_{abs}$		die	][	=NHY	1_{erg}	know	not	not	]] fear

'I'm afraid that my wife dies and I forget her'

9 Asymmetric vP coordination

I argue that the constructions that have been identified as clause chaining are simply cases of asymmetric vP coordination (Postal, 1998). The mistake take leads to the misidentification of asymmetric coordination as a *sui generis* construction is the interpretation of two independent language-specific properties as intrinsic to the construction. Those properties are subject in situ and switch-reference marking.

Postal actually discusses four classes of asymmetric vP coordination. In the discussion that follows I'm restricting my comparison with A-type asymmetric coordination only. I do that because, if Postal argument is on the right track, the other cases might actually not instance coordination.

Asymmetric vP coordination also has properties (A), (B), (C) and (D). Properties (A), (B) and (D) will be exemplified with (41) below (Postal 1998, p.66, ex. 50a). In what follows I will proceed to discuss each of these properties in turn.

(41) Asymmetric vP coordination

[[Which student] $_i$ did Nora go to the store, come home and talk to t_i for one hour?

(A) Each clause is individually asserted and advances the timeline of the discourse.

This is a hallmark property of asymmetric coordination, which distinguishes it from logical coordination. In asymmetrical coordination, preceding clauses are interpreted as temporally/causally/argumentatively prior to following clauses. As is typical of coordination, clauses are asserted, as opposed to being presupposed.

(B) Though only one peripheral clause is inflected, all other clauses are interpreted as if identically inflected, and may furthermore be marked for switch-reference (e.g. same or different subject as the previous clause).

The fact that each verb in (41) gets its own inflection might be interpreted as an indication that property (B) as stated above is actually not a property of sentences like (41). Postal observes, though, that verbal inflection has to be identical on every verb. Since Postal's constructions have properties of vP coordination (Postal observes that they can't contain modals or negation), such same-inflection restriction must be said to follow from the morphological characteristics of English inflection. How that morphological requirement is accounted for is not essential for the discussion we're entertaining here. For instance, in an affix hopping account, Infl could be said to hop across-the-board onto the verb on each of the coordinated vPs. In a checking account, a null Infl head could be said to check the inflectional morphology on the verb of each of the coordinated vPs. The evidence available doesn't allow us to pick an account, and the problem at hand doesn't require picking one. We only need to realize that the conjuncts in A-type asymmetric coordination are vPs, with a single dominating inflection head morphologically realized on the verbs of those conjuncts.

(C) The number of clauses in a chain isn't limited.

Another hallmark of coordination is the possibility of keeping adding new clauses without prejudice to processing or understanding, which is not true of other forms of clause combination such as embedding, but is true of clause chaining.

(D) Constituents can be fronted in a non-ATB fashion from clause-chains.

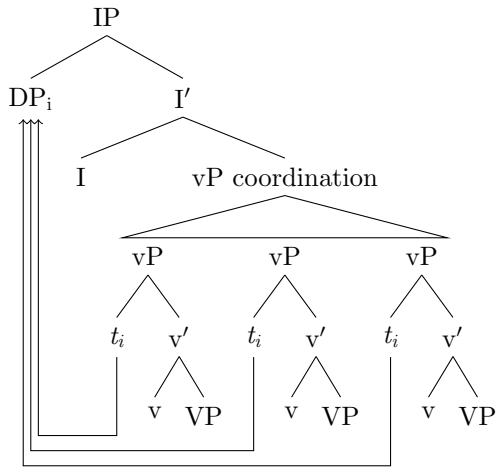
Constituents can be non-ATB extracted from both clause chains and asymmetric vP coordination: see (41) for English and (22) for Kĩsêdjê. As already stated, though relevant data on extraction from chains in other languages are rare in the literature, where available they seems to pattern with Kĩsêdjê and English asymmetric vP-coordination, as in example (32) from last section.

Postal's constructions appear to differ from chaining I) always involving clauses that share the same subject II) in licensing different extraction possibilities and III) in not marking switch-reference. I argue below that these differences are not fundamental, but rather follow from independent syntactic differences between English and languages where clause chaining has been identified.

9.1 Same-subject requirement

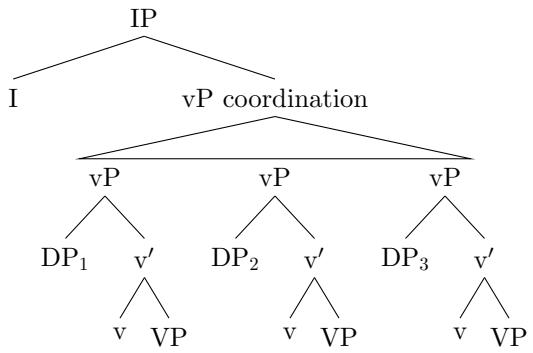
An important difference between English asymmetric vP coordination and clause chaining is the requirement, exclusive to English, for all clauses to share a unique subject. It is easy to understand why such a requirement would hold. In English, subjects must move out of their vP-internal base position into Spec-IP. That type of movement is usually thought to be motivated by requirements both on Infl as well as subjects. Since the specifier of the single Infl head that dominates vP coordination is unique, there isn't room to accommodate movement of multiple different subjects. Though in principle movement of a single subject should be enough to satisfy the requirement on Infl, it would leave the requirements of the subjects left in situ unsatisfied. As a result, the only way to satisfy the requirements of all the parties involved in vP coordination is by extracting vP subjects across-the board into Spec-IP —(42). Since there is no such thing as across-the-board extraction of non-identical elements, the subjects extracted across-the-board from coordinated vPs must be identical.

(42) ATB extraction of the subject in English vP coordination



I argued in section 8.1 that Dooley's property (B) can be straightforwardly accounted in chaining by taking it to be a vP-combining construction. In order to show that chaining is vP coordination, I need to explain why, unlike in English, those vPs can contain different subjects. The only way coordinated vPs can have different subjects is if their subjects stay in situ (43). I will review evidence that this is indeed the case in Kĩsêdjê. Though I lack specific data to demonstrate the same is true for other languages, I will review theoretical reasons due to Richards (2011) that lead to believe that, in Inflection-last languages —which not accidentally happen to be the most common type of language where chaining has been identified (see Dooley, 2010a)— subjects only have half as many reasons to move out of their base positions into Spec-IP than subjects of Inflection-initial languages.

(43) Chaining is vP coordination in subject in-situ languages



Though Kĩsêdjê is generally head-last, the directionality parameter inverts at the Infl level, with the Infl head sitting to the left of its complement vP. That makes linear evidence about the position of the subject available (which is not the case in inflection-last languages). The linear evidence we have that subjects stay in situ inside the vP in Kĩsêdjê is the fact that subjects are located to the right of Infl. The position to the left of Infl, which I take to be its specifier, is reserved for focus —if Infl is factual (44-a) or hypothetical (44-b)—, and for counterfactual restrictors —if Infl is counterfactual (44-c). Other modal particles don't take a constituent to their left, as indicated in table 1.

(44) Kĩsêdjê's Spec-IP isn't occupied by the **subject**

a. hwĩkhá ndêkrêt =[na] **ku** s -ariri
car part=FACT 1+2_{nom} 3_{abs}-wait
'We're waiting for the car part'

b. nhy hwĩkhá =[kôt] **wa** ∅ -tho thẽ?
which car=INF.FUT 1_{nom} 3_{abs}-with go
'What car would I take?'

c. kôre anhi nharẽn khêt=[arân] **wa** i-thẽm khêrê
3_{erg} self tell not=COUNTER 1_{nom} 1_{abs}-go not
'Had he not told his deeds I wouldn't have come'

From an European-centric point of view, it might seem unexpected for Spec-Infl to be a position with semantic and selectional characteristics. Kĩsêdjê is not the only fieldwork-type language in which there is evidence for that. Aissen (1992) argues, based on intonational phenomena, that in the Mayan languages Tzotzil, Jakaltek and Tz'utujil the specifier of Infl is the position focused constituent move into.

The positional argument given above (subjects are in Spec-vP because, being to the right of Infl, that is the only position they could be at) only remains sound if I can provide evidence that Infl stays in situ in Kĩsêdjê. That is so because the position of the subject to the right of Infl is also compatible with a derivation where subjects move out of their vP-internal position into Spec-IP, with Infl subsequently moving to a position adjoined to C, to the left of the subject in Spec-IP. That derivation depends on I-to-C movement, which the evidence available indicates doesn't obtain in Kĩsêdjê. Let's review that evidence.

Kĩsêdjê doesn't allow multiple questions in simple clauses (45). We can explain that by making reference to the standard assumption that question force originates in C, with C in Kĩsêdjê bearing at most one Wh-feature. That feature can't be what triggers movement in (46), though, or we would expect every Wh-question to feature movement, which is simply not the case in Kĩsêdjê. When the Infl particle heading a Wh-question sentence is the counterfactual *arân*, for instance, no movement obtains —see (47). Since (47) must have the same Wh-feature bearing C as (46), dislocation of the Wh-constituent in (46) has to be triggered by something else than C. Arguably, the movement seen in (45) may be triggered by an EPP-bearing focus feature on the factual Infl head *na*. A focus feature can drive movement of Wh-constituents because Wh-constituents are under contrastive focus. There is no dislocation in counterfactual questions because the counterfactual Infl particle *arân* doesn't have a focus feature.

(45) No multiple questions in Kĩsêdjê

a. *nhũm=na wâtâ pĩ
who=FACT what kill

b. *nhũm=na wâtâ=n khu-pĩ
who=FACT what=FACT it-kill

c. *nhũm wâtâ=n khu-pĩ
who what=FACT it-kill
'Who killed what?'

(46) Obligatory movement in sentences with focus-taking Infl
Nhũm mã*(=n) s-ámbra thẽ?
who to=FACT he-shout go
'Who is/was he shouting to?'

(47) Counterfactual questions are asked with Wh-word in situ.
wipãn=arân nhũm mã s-ámbra tẽ?
drunk=CNTERFACT who to he-shout go
'If he were drunk, who would he be shouting to?'

If the Wh-constituent to the left of the factual inflectional particle *na* in (46) has been moved to that position due to a requirement of the inflectional particle, that position must be the specifier of the inflectional particle, that is, Spec-IP. From that, it follows that Infl is in situ in its base position.

I will provide a second piece of evidence for the claim that Infl stays in situ in Kĩsêdjê. Example (48) features two IPs connected by a switch-reference marker (the Infl heads are inside boxes). If, as I argue is the case, Infl stays in situ in Kĩsêdjê, there is only one C head in example (48). If, on the other hand, Infl moves to a position adjoined to C, there are two C heads in this sentence. If there were **two** C heads, we would expect it to be possible for each of those C heads to bear their own Wh-feature and, therefore, for each of the C-dominated clauses to be able to host its own question word. But that isn't possible, as you can verify —(49). By exclusion, there must be a unique C head in sentences (48) and (49). With only one C head and two Infl heads, we can't expect for there to be I-to-C movement[11].

(48) Chain of IPs
khupyt=$\boxed{\text{na}}$ itha pĩ=nhy Nuki=$\boxed{\text{n}}$ itha pĩ
K.=FACT this kill=DS N.=FACT this kill

(49) Kĩsêdjê doesn't allow one question per inflected clause
*[wâtâ=$\boxed{\text{n}}$ ∅ khu-py][=n nhum mã=$\boxed{\text{n}}$ ∅ khu-ngõ]?
what=FACT 3_{nom} 3_{acc}-get=SS who to=FACT 3_{nom} 3_{acc}-give
'Who caught it and who did he give it to?'

As a last point: coordination of CPs does exist in Kĩsêdjê, and allows for one Wh-question to be asked per sentence —(50). What makes it clear that cases like (50) are CP coordination, is the fact that they display different morphology than IP or vP coordination, namely, in CP coordination there is no contrastive switch-reference marking. That is an interesting point in itself, but I won't have anything to say about it here.

(50) CP coordination in Kĩsêdjê has different morphology
[wâtâ=n ∅ khu-py] [nenhy nhum mãn ∅ khu-ngõ]?
what=FACT 3_{nom} 3_{acc}-get and who to=FACT 3_{nom} 3_{acc}-give
'Who caught it and who did he give it to?'

I suggest part of the reason why in some under-studied languages asymmetric vP coordination has been considered exotic enough to merit being described as its own *sui generis* construction was the fact that in those languages subjects stood in-situ. Even though that is an independent difference between those languages and the languages where asymmetric vP coordination has been properly described as asymmetric vP coordination, that difference has been interpreted as a special property of the construction.

I hope to have convincingly argued that point for Kĩsêdjê. The literature on chaining unfortunately doesn't discuss the position of the subject in the languages they describe, at least not as far as I've been able to check. In order to discuss the position of the subject in Kĩsêdjê I had to rely on a careful analysis of its syntactic structure. I wouldn't hope to be able to proceed to such a discussion in other languages from data scrounged from the literature. Making the task even more daunting is the fact that chaining is more often than not identified in head-final languages (only 2 out of the 11 languages surveyed by Dooley 2010a have SVO order inside clause chains), which makes linear evidence about the position of the subject unavailable in those

[11]This second argument can be accused of bearing only on the case of clause chains. That is fine by me. It would be enough for current purposes if Infl stood in situ only in clause chain.

languages. Furthermore, given Ritter and Wiltschko's (2008) framework, before I could even talk about an vP/IP distinction in these languages I would have to identify the functional projection that corresponds to Infl in each of them.

There is a general cross-linguistic remarks I can make with respect to the position of the subject in head-final languages, though.

Richards (2011) proposes two independent independent mechanisms for subject movement. One of them is *affix support*: affixal inflexion requires for there to be material with metric structure in its direction of affixation (that is, to the right of Infl if it is a prefix and to its left if it is a suffix). This requirement is satisfied without recourse to movement if by the time Infl is merged into the structure there already is material with metric structure in the relevant position. Otherwise, some c-commanded material containing metric structure will have to be dislocated there. This is the mechanism Richards claims underlies the EPP.

Another reason why a subject would move from its base position is *Probe-Goal Contiguity*: once an agreement relation is established between a higher probe and the subject, those two elements are required to be contained in the same prosodic phrase.

In Inflection-last languages only the EPP can cause a subject to move out of the vP, never Probe-Goal Contiguity. The reason for that is the following: when inflection is to the right, moving the subject it agrees with to a higher specifier position will only place it farther away from the Inflection head. That is the opposite of what probe-goal contiguity requires. As a last point, the EPP, though it can be active in inflection-final languages, doesn't require for it to be the subject that moves for its satisfaction. In fact, movement of any phrase with metric structure would do.

If my conclusion, based on Richards's theory, that subjects in inflection-final languages will more often than not stay in situ is on the right track, that conclusion supports my claim that the SOV languages where asymmetric vP coordination has been mislabeled as clause-chaining are precisely those subject in-situ languages we would expect them to be. The fact that the subject stayed in situ in those languages is in the origin of the confound.

9.2 Different Extraction Possibilities

A less immediate difference between the constructions identified as chaining and English asymmetric vP coordination are the different extraction possibilities licensed in each case. According to Postal (1998), extraction is never possible out of the first constituent of constructions like (41) —see (51). Note that within Postal's classification of asymmetric coordination, the kind of coordination instanced in (41) is type-A. Type-B, type-C and type-D asymmetric coordination all instance different extraction possibilities. As stated before, I'm not discussing those cases here since, if Postal (1998) is right, they don't instance coordination at all.

(51) No extraction from the first conjunct in English *from Postal (1998, p.66, ex.49c)*
* the store which$_t$ Harry went to *t*, bought stuff, went home, ate it, and returned to *t* for more.

In Kĩsêdjê chaining, on the other hand, extraction **is** possible out of the first conjunct (52).

(52) Kĩsêdjê extraction from the first clause
wâtâ$_t$=n [=ka $\emptyset_t$-pyry kêt] [=ne tẽ?]
what=FACT [=2_{nom} 3_{abs}-take not] [=SS go]
'What is such that you didn't get it and went (away)'

Different extraction possibilities wouldn't be an obstacle for characterizing chaining as an instance of asymmetric vP-coordination, since they can be derived from independent factors. Note that different extraction possibilities in asymmetric vP coordination were already recognized in Postal (1998) between English and French. Though French, like English, allows asymmetric vP coordination (53), it doesn't license any kind of non-ATB extraction (54).

(53) Asymmetric vP coordination in French
Jacques a couru au marché, a acheté du pain, a foncé chez lui, et l'a mangé.
'Jacques ran to the market, bought some bread, rushed home, and ate it.'

(54) No extraction from asymmetric vP coordination in French
* le pain que$_t$ Jacques a couru au marché, (a) acheté *t*, (a) foncé chez lui, et (a) mangé *t*
'the bread which$_t$ Jacques ran to the market, bought *t*, rushed home, and ate *t*'

According to Postal, asymmetrically conjoined vPs are islands in both English and French. English and French differ only in the strength of their islands. Whereas in French asymmetrically conjoined vPs are strong islands, they are weak islands in English. Postal argues that extraction out of weak islands is possible as long as it proceeds through the agency of a resumptive pronoun in the extraction site, which is what he proposes happens in the English case. Of course Postal knows that sentences like (41)

don't contain overt resumptive pronouns, but he provides arguments for believing that in such cases what the extraction site contains is a *null* resumptive pronoun.

The extraction difference between English and Kĩsêdjê can also be framed within Postal's resumptive account. Postal (1998) claims that extraction in English out of the first conjoint is impossible because the that conjoint is a strong island. In Kĩsêdjê it wouldn't matter whether a conjoints is a strong or weak island, since in Kĩsêdjê we can actually see an *overt* resumptive pronoun in the extraction site —see (22) and (52). The position defended by Postal, and attributed to Ross (1967), is that extraction is possible out of any kind of island once the extraction site contains an overt resumptive pronoun. That explains why in Kĩsêdjê extraction is always possible, out of any clause.

9.3 Switch-reference marking

Dooley (2010a) does not view switch-reference marking as a hallmark feature of chaining (and thence the use of 'may' in the second half of clause-chain property B). He identifies languages that don't have switch-reference markers, Korean, for instance, as chaining languages. There have also been constructions identified as subordination that displayed clause chaining morphology (as observed in section 8). In addition, Kĩsêdjê also has constructions whose properties diverge a from Dooley's original observations, while still displaying switch-reference. In the next section I argue one of these constructions instances IP coordination.

10 IP coordination

In (55) below each clause has its own inflection (contra B), and therefore this must be a case of IP-coordination. These cases can't instance non-ATB extraction (contra D) (56), but that receives an independent explanation: extraction in Kĩsêdjê is to Spec-IP. With each conjoint containing its own IP layer, a question word in the second conjoint would be attracted to the specifier of the immediately dominating IP.

(55) IP-combining chaining
[Khupyt=na itha pĩ][=nhy Nuki=n itha pĩ]
[K.=FACT this kill][=DS N.=FACT this kill]
'K. killed this and N. killed that'

(56) IP-combining chaining doesn't allow non-ATB extraction
[nhy mbry =n Roptxi ra ita pĩ][=nhy nuki ra khu- pĩ]?
[which animal=FACT R. NOM this kill][=DS N. NOM 3_{acc}-kill]
'Which animal is such that R. killed this one and N. killed it?'

These are all expected properties of IP coordination, even though this IP-combining construction employs the same switch-reference morphology as the asymmetric vP coordination construction identified in the last sections. That is exactly what we'd expected to encounter if switch-reference markers were simply a morphologically richer instantiation coordinating conjunctions.

Positional evidence that switch-reference markers are indeed coordinating conjunctions rather than, for instance, verbal inflection, isn't available in most of the languages where these markers have been found. That is so because most of the languages where SR markers have been found are verb-last. There fortunately are a few non-verb-last languages that display SR in coordination/chaining. In one of those languages, Pima (Uzo-Aztecan, data copied from Langdon and Munro 1979), SR will appear precisely in the position we'd expect to find a coordinating conjunction (57).

(57) Linear evidence from non-verb-last language Pima that SR is a coordinating conjunction
a. [Brent 'a-t 'am ṣohñi heg Eric] **c** ['am keihi heg Sylvia]
[B. aux-perf there hit art E.] **ss** [there kick art S.]
'Brent hit Eric and kicked Sylvia'
b. [Brent 'a-t 'am ṣohñi heg Eric] **ku**-t [heg Eric 'am ṣohñi heg Sylvia]
[B. aux-perf there hit art E.] **DS**-perf[12] [art E. there hit art S.]
'Brent hit Eric and Eric hit Sylvia.'

Another non-verb-last language that has SR markers is Supyre (Niger-Congo, data from Carlson 1994). As you can see in (58) below, SR markers, rather than being adjacent to the verb, are between the combined clauses, as expected given my claim that these markers instance coordinators.

(58) Linear evidence from non-verb-last language Supyre that SR is a coordinating conjunction
[ceè-ŋi wà u mà?a pyà si] **kà** [u ú fáǎ] **kà** [u ú nkárá] **á** [sà ù
[woman-DEF.G1 IND.G1 PN.G1S PAST child give.birth.to] **DS** [PN.G1 SEQ wilt] **DS** [PN.G1S SEQ go] **SS** [go PN.G1S
wà dù-gé ɲwɔ̀-gé na] **ma** [á ǹtàsɔ̃̀ ' ywɔ́]
throw stream-DEF.G2S mouth-DEF.G2S on] **SS** [SEQ toad take]
'A certain woman gave birth to a child and she became paralysed and she went and threw her away (=exposed her) at the edge of the stream and took a toad (in her place).'

11 Symmetric Coordination

I have defended the position that what the construction that has been mislabeled clause chaining actually is is asymmetric vP coordination. Then I proceeded to show that asymmetric IP coordination is also instanced in languages where chaining has been identified. A natural question to ask, then, is whether these languages also instance symmetric coordination. The answer seems to be positive. Interestingly, though, it seems that switch-reference marking stops being contrastive in symmetric coordination, as you can see in the Kĩsêdjê example in (59): even though the subject is the same across both clauses, a DS marker is employed.

(59) Symmetric coordination in Kĩsêdjê
rátãm kh-wã rop wymba =nhy/*ne tarãm kh-wã s-umba khêrê
now 3-to jaguar fear =DS/*SS before 3-to 3-fear not
'Now he fears jaguars but before he didn't fear them.'

Roberts (1988) presents evidence that in Amele SR also isn't distinctive in symmetric coordination. And, just as in Kĩsêdjê, in symmetric coordination, different-subject marking is indiscriminately employed. He doesn't characterize the context for indiscriminate different-subject marking as symmetric coordination, though. That is only my interpretation of what he says, namely, that *"In text material DS markings can occur across clauses that have the same subject NPs. The explanation given by native speakers for such instances is that 'something has changed' or this is 'a new situation'."*. One of the examples he employs is (60) below. Though I can't know for sure without asking a speaker of the language, it seems like inverting the clauses in (60) wouldn't change its meaning.

(60) Symmetric coordination in Amele
Eu 1977 jagel November na odo-co-b cul-ig-en.
that 1977 month November in do-DS-3s leave-lp-3s-rem.p
'That was in November 1977 that he$_i$ did that and then he$_i$ left it for us.'

12 Conclusion

After investigating the structure of the Kĩsêdjê clause, I was able to show that the properties of Kĩsêdjê chaining are actually the same (modulo some peripheral differences) as those of asymmetric vP coordination. An IP-combining construction with very similar morphology as asymmetric vP coordination/chaining was also found that, inasmuch as it lacked some of the properties of chaining, had the properties we would expect to find in IP coordination. Lastly, I showed examples of symmetric coordination, with expected syntactic differences.

The only properties I used in my demonstration which didn't come from Dooley's (2010) and (2010) were Kĩsêdjê's vP internal subjects and non-affixal Infl. These are not typologically uncommon properties, and it is possible that constructions from other languages that have been characterized as clause chains could also be shown to actually be asymmetric vP coordination. I provided general theory-based evidence that, indeed, that must be the case with the majority of the SVO languages, which not by accident would be the kind of language where clause chains has been more widely identified.

Having provided evidence that clause chains are a mere descriptive label for constructions that actually instance vP coordination, I have laid a foundation for studying the crosslinguistic properties of coordination. In particular, in work in preparation I will assume that switch-reference markers are instances of morphologically richer coordinating conjunctions and investigate what structure they would have to be embedded in in order to be able to do what they do, namely, to compare subjects of adjacent conjuncts and tell whether they are different or the same.

[12]It is an interesting that perfective inflection directly follows different-subject switch-reference markers, instead of following the subject like it does in the first clause of both examples. I don't know how to interpret this.

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