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Asymmetry and contrast: Coordination in Sign Language of the Netherlands

Katharina Hartmann, Goethe-Universität Frankfurt am Main, DE, k.hartmann@lingua.uni-frankfurt.de

Roland Pfau, Universiteit van Amsterdam, NL

Iris Legeland, Universiteit van Amsterdam, NL

This paper investigates coordination in Sign Language of the Netherlands (NGT). We offer an account for a typologically unusual coordination pattern found in this language. We show that the conjuncts of a coordinated structure in NGT may violate a constraint governing coordinated structures in spoken languages, which we refer to as the ‘Parallel Structure Constraint’. The violation consists in asymmetric fronting in the second conjunct of a coordinated structure. We argue that a violation of the Parallel Structure Constraint is acceptable in NGT in order to express a contrast across the conjuncts. Hence asymmetric reordering in the second conjunct is a strategy that allows signers to obtain the desired strength of marking when in situ marking is insufficient.

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1. Introduction

In this paper, we investigate coordination in Sign Language of the Netherlands (*Nederlandse Gebarentaal* – NGT). Throughout the paper, we focus on conjunctive (‘and’) and disjunctive (‘or’) coordination, leaving aside adversative (‘but’) coordination, and we offer an account for a typologically unusual pattern that we observed in NGT. We show that the conjuncts of a coordinated structure in NGT may violate a constraint governing coordinated structures in spoken languages, which we refer to as the ‘Parallel Structure Constraint’ (PSC, see, e.g., Lang 1987; Progovac 1998). According to this constraint, the conjuncts of a coordination agree with respect to their word order, that is, word order variation across conjuncts leads to marked results. An example of a PSC violation from English is provided in (1), where the locative argument is asymmetrically topicalized in the second conjunct.

- (1) *Mary is going to school, and to college, Vivian (goes).

In NGT, syntactic asymmetries as in (1) are attested. We argue that they are triggered by information-structural demands (Kimmelman & Pfau 2016). Thus, the second conjunct provides a contrastively focused constituent (cf. Repp 2016; Zimmermann 2008), which is marked by syntactic movement to a focus position in the left periphery. We propose to account for the parametric variation between NGT and languages such as English by assuming a (possibly) modality-specific difference to the effect that in situ focus marking in NGT (Crasborn & van der Kooij 2013) may sometimes not be perceived as strong enough to express a contrastive focus in coordination. Asymmetric focus movement is then a last resort strategy to express the focal contrast across the conjuncts (cf. Hartmann 2000), at the cost of a PSC violation.

Since the notion of contrast plays an important role in our information-structural analysis, we provide a short definition of the concept as we use it in this article. Contrast expresses a discourse relation indicating that a constituent is used in exclusion to another (see Umbach 2004; Repp 2016 for a discussion of the notion of contrast). Contrast emerges in a number of contexts, as for example in corrective statements. This is shown in (2). The contrasting constituents are necessarily accented since they represent the (contrastive) foci of the clauses (accented syllables appear capitalized).

- (2) Franck does not like GIN. He likes MarTini.

A condition for two constituents to express a contrast is that they share a number of similarities and differences at the same time. The similarities concern the type of the constituents. They involve first the ontological category of the constituents, second their syntactic function, and third their syntactic position. In (2), the ontological category type is alcoholic drinks, the syntactic function is direct object, and the syntactic position is the postverbal object position.

The difference concerns the respective tokens: the contrastive foci must represent two different elements from among the available alternatives.

A syntactic structure which by definition supports these conditions is what we will call here a *genuine* coordination. A genuine coordination is a coordination where the PSC is operative. As we will lay out in more detail in Section 2, the conjuncts of a genuine coordination exhibit syntactically and semantically parallel structures. It has been assumed that parallelism across conjuncts is conditioned by information structure, in the sense that some identical subparts across the conjuncts are contextually given, whereas others are either topical or focal. These topical and focal parts have been claimed to stand in a relation of contrast given that they adhere to the conditions outlined above (Hartmann 2000; Umbach 2004; Winkler 2005). An example is provided in (3), where the accented objects represent the foci of each conjunct (Umbach 2004: ex. (2), our accenting).

(3) John had a BEER, and he also had a MarTInI.

The present paper is concerned with contrastive focus in coordination structures. We argue that in NGT, the third similarity, i.e., the syntactic position of the contrastive focus, may vary across the conjuncts of a coordination structure.

Our paper is structured as follows. In Section 2, we discuss symmetry conditions in coordination in spoken languages. In Section 3, we present previous studies on coordination in sign languages. The methodology of our study is introduced in Section 4, followed by a presentation of our results in Section 5. The analysis of the data is presented in Section 6. Section 7 concludes.¹

2. Symmetry and asymmetry in genuine coordination

This section discusses typical properties of coordination. It is argued that genuine coordination is subject to a number of syntactic and semantic constraints that yield the typical parallel composition of the conjuncts as defined in the Parallel Structure Constraint. We differentiate genuine coordination, where parallel conjuncts are coordinated, from simple juxtaposition of structurally independent sentences, which may also be connected by overt conjunctions.

¹ The results described in this paper have been presented at the Formal and Experimental Advances in Sign Language Theory (FEAST) conference in Venice in 2018. A much shorter version of the present text has been previously published in a proceedings volume (see Legeland, Hartmann & Pfau 2018). In the present paper, we slightly diverge from our earlier claims. In addition, we extend our analysis to a phenomenon that we didn't discuss in the proceedings from 2018, namely an NGT construction involving clause-final subject pronouns.

2.1 Constraints on parallelism

The conjuncts of a coordinated structure are often claimed to exhibit a parallel structure (Lang 1987; Goodall 1987; Progovac 1998; Hartmann 2000; among many others). Parallelism refers to a number of interrelated syntactic and semantic concepts regulating the shape of coordinations. Lang (1987) considers parallelism to be “a universal principle of second order language structuring” meaning that special conditions apply to it.² He proposes several conditions that define this notion in coordination (and poetic) structures. Semantically, the conjuncts of a coordinated structure must fall under the same “common integrator”, which, according to Lang, is a shared background further elaborated by the two conjuncts. Parallelism also regulates the formal shape of the conjuncts. Most famously, conjuncts show an equal configuration of constituents. The *Same Type Hypothesis* (Chomsky 1957), the *Coordinate Constituent Constraint* (Schachter 1977) as well as the famous *Law of Coordination of Likes* (LCL, Williams 1981) require conjuncts to be of the same syntactic category. An example is given in (4) (Goodall 1987: 34).³ (4a) violates the LCL constraint family since an AP and a DP are coordinated. In (4b), the violation disappears, as both conjuncts are VPs. Note that the internal structure of the VPs in (4b) differs, which does not appear to influence the grammaticality of the example.

- (4) a. *The bouncer was [_{AP} muscular] and [_{DP} a guitarist].
 b. The bouncer [_{VP} was muscular] and [_{VP} was a guitarist].

It is well-known that the LCL is not without exceptions. On the one hand, there is ample literature showing that conjuncts of different types may be coordinated (see Sag et al. 1985; Goodall 1987; Goodall 2017; Lang 1987; Zoerner 1995; among many others). The exceptions to the LCL go into two directions. First, it has been argued that conjuncts of different syntactic categories may be coordinated, cf. (5a), from Sag et al. (1985), and (5b) from Zoerner (1995).

- (5) a. Pat has become [_{DP} a banker] and ~~has become~~ [_{AP} very conservative].
 b. Robin realized [_{CP} that the sky was falling] and ~~realized~~ [_{DP} the gravity of the situation].

² The concept of parallelism might have even broader areas of application. Frazier et al. (1984), for instance, argue that there is a preference for parallel structures in human sentence comprehension. Reading experiments show that the reading time of a second conjunct of a coordinated structure is shorter if the second conjunct is structurally parallel to the first. The tested parameters include not only simple word order but also more complex syntactic structures. Carlson (2001) investigates interpretive preferences in the comprehension of coordination structures involving Gapping. She argues that syntactic and prosodic parallelisms are important factors in the interpretation of Gapping sentences. Both works emphasize the impact of parallelism for language comprehension suggesting that parallelism might even be a more general cognitive organizational principle, which in language finds its expression in coordinated structures. We thank one of our reviewers for directing us to this literature.

³ The given judgements are Goodall's. A reviewer points out that (4a) seems marginal but not unacceptable, which is due to its potential use as a rhetorical zeugma construction.

Coordination of unlike constituents of the type illustrated in (5) has been accounted for assuming ellipsis. Thus, in (5) coordination could be argued to consist of two VPs plus Gapping, eliding the finite verb in the respective second conjuncts. (Gapping is indicated by strike-through.) However, ellipsis may not always apply, as shown in the example in (6), discussed in Sag et al. (1985), where the second conjunct is not selected by the predicate, independently of ellipsis. Such examples show that selection may be asymmetrical in that only the first conjunct has to fulfill the selectional restrictions of the overt verb. This often also holds for agreement relations, for instance closest conjunct agreement, as illustrated in (7) from Slovenian (Marušič, Nevins & Badecker 2015: 42), where the participle agrees in gender with the second conjunct (for an overview on various cases of so-called “unbalanced coordination”, see Johannessen 1998).

(6) You can depend on [_{DP} my assistant] and [_{CP} that he will be on time].

(7) Slovenian (Marušič, Nevins & Badecker 2015: 42)

Krava in njena teleta so trčila druga ob drugo.
 cow_{F.SG} and her calves_{N.PL} AUX_{PL} collided_{N.PL} other into another
 ‘A cow and her calves collided with each other.’

The second type of exceptions to the LCL is of a semantic nature. In (8a), both conjuncts relate to the same verb; nevertheless, the coordination is odd. In (8b), even coordination of two PPs modifying the same verb is ungrammatical, showing that the syntactic relation alone is insufficient to account for the full range of data. In order to account for the ungrammaticality of examples such as the ones in (8), Schachter (1977: 90) argues that “the constituents of a coordinate construction must belong to the same syntactic category and have the same semantic function”. This is obviously not given in (8a), but it is also not the case in (8b), where the head of the PP-conjuncts expresses different modificational relations (comitative vs. manner; see Zamparelli 2011: 1720). The requirement of a same semantic function is equivalent to Lang’s concept of a “common integrator”, which subsumes the content of each conjunct under a more general and situationally determined meaning (Lang 1987).

- (8) a. *John ate [_{DP} a sandwich] and [_{PP} with his mother].
 b. *John ate [_{PP} with his mother] and [_{PP} with good appetite].

In order to capture the symmetry conditions on coordination discussed in this section, and in order to refer to them in the remainder of this article, we summarize the observations on parallelism in coordination in the Parallel Structure Constraint in (9).

(9) *Parallel Structure Constraint (PSC)*

The conjuncts of a genuine coordination show a strong tendency to display a syntactically, semantically, and prosodically parallel structure.

An alternative approach to the PSC, hence the question what qualifies as a well-formed conjunct, could be to assume that conjuncts must exhibit an identical information structure (see Hartmann 2000; Winkler 2005). According to this view, conjuncts must be elements of the same set of focus alternatives. Thus, coordination is closely related to focus. We propose that the parts of a coordinated structure have an identical topic-focus structure. This requirement allows us to derive the syntactic as well as the prosodic symmetries across the conjuncts. The background of this assumption is that conjuncts represent individual, partial answers to the actual question under discussion (QUD, Roberts 1996), as is illustrated in the example in (10). The symmetric distribution of the pitch accents follows from the fact that each conjunct partially answers the preceding question.

(10) Q: What would you like to drink?

A: I'll take a BEER, Mila takes a PINEapple juice, and Mara takes a COKE.

Note that the QUD must lead to a partition of the clause into a focus and a background to guarantee genuine coordination. Thus, a QUD of the type *What happened?* is not suited to force genuine coordination since any kind of a broad focus utterance may serve as a well-formed answer to this question. These answers may be paratactically connected by a conjunction, see (11) (Ken Follett, *The Pillars of the Earth*, New American Library 1990: 528). However, this is not coordination in the sense we are interested in here.

(11) The stone had a will of its own, and if he tried to make it do something it did not want to do, it would fight him.

The two parts of the utterance in (11) are two grammatically independent clauses, which are nevertheless juxtaposed by the conjunction *and*. This shows that the use of conjoining elements is not restricted to genuine coordination, which has to adhere to the restrictions discussed in this section.

In a slightly more formal vein, we assume that the conjuncts of a coordination are members of the same focus alternative set (Rooth 1985; Rooth 1992). The conjunction (*and/or*) functions as an operator selecting additional elements from the alternative set as second conjunct(s). This is illustrated in (12) (T indicates the topic, F the focus constituents).⁴

(12) Q: What did Joan and Peter bring?

A: [JOAN]_T brought [the STRAWberries]_F and [PEter]_T brought [the CREAM]_F.

⁴ Umbach (2004) also discusses the close relationship between focus alternatives and conjuncts of a coordination structure. She argues that the formal requirements of a conjunct (a balanced interaction between formal similarity and semantic distinctness) can be defined assuming that conjuncts are actually elements of the same focus alternative set.

The topic/focus alternative set of the first conjunct (C_1) is given in (13). The alternative set contains elements which vary in comparison to C_1 in the position of the topic and the focus, respectively. According to Büring (1997), the focus value of C_1 is contained in the topic value, as shown in (13) and (14).

- (13) $\llbracket [_{TP} \text{Joan}_T \text{ brought } [\text{the strawberries}]_F] \rrbracket =$
 $\{ \{ \text{Joan brought the strawberries, Joan brought the cream, Joan brought the wine, ...} \},$
 $\{ \text{Peter brought the strawberries, Peter brought the cream, Peter brought the wine, ...} \}$

- (14) a. focus value of C_1 :
 $\lambda p. \exists y [y \in \text{ALT}(\text{strawberries}) \ \& \ p = \text{brought}(y)(J)]$
 b. topic value of C_1 :
 $\lambda P. \exists x [x \in \text{ALT}(\text{Joan}) \ \& \ P = \lambda p. \exists y [y \in \text{ALT}(\text{strawberries}) \ \& \ p = \text{brought}(x)(y)]]$

An information-structural interpretation of the PSC is also able to derive the ungrammaticality of coordination with semantically unlike constituents. Consider (15). In (15a) the two conjuncts do not represent alternatives of the same alternative set, which causes the ungrammaticality of the example. In (15b), the conjuncts represent two different sentence types, which again do not form proper alternatives.

- (15) a. *My brother is working $[_{pp}$ in the garden] or $[_{AdvP}$ today].
 b. *Peter loves strawberries and who raspberries?

It is remarkable that none of the approaches to parallelism addresses the question whether the conjunct-internal word order may vary across the conjuncts. Before we further investigate this question for NGT, we would like to set the scene by looking at word order asymmetries across conjuncts in German and Dutch.

2.2 Word order variation within conjuncts: a first approximation

Constraints like the LCL regulate the categorial concordance of coordination parts. However, the internal structure of the conjuncts has not received much attention in the literature. For instance, the question arises whether it is possible to conjoin two conjuncts where the word order within the second conjunct varies from the word order within the first.

In a first approximation to the question whether asymmetric word order across conjuncts is available at all, we investigated coordination in German and Dutch. A representative data set is given in (16) for German and in (17) for Dutch. We compared the grammaticality of coordination in three environments: (i) coordination with the same word order in both conjuncts (16a/17a), (ii) coordination of conjuncts with varying word order (16b/17b), and (iii) coordination of conjuncts with varying word order and ellipsis (16c/17c).

(16) *German*

- a. Ich blätterte in der Zeitung und Peter las in einem Roman.
I browsed in the journal and Peter read in a novel
'I browsed through the journal, and Peter read in a novel.'
- b. ?Ich blätterte in der Zeitung und in einem Roman las Peter.
I browsed in the journal and in a novel read Peter
'I browsed through the journal, and in a novel, Peter read.'
- c. *Ich blätterte in der Zeitung und in einem Roman Peter.
I browsed in the journal and in a novel Peter

(17) *Dutch*

- a. Marije gaat naar school en Fenna gaat naar de universiteit.
Marije goes to school and Fenna goes to the university
'Marije goes to school and Fenna goes to the university.'
- b. ?Marije gaat naar school en naar de universiteit gaat Fenna.
Marije goes to school and to the university goes Fenna
'Marije goes to school and to University, Fenna goes.'
- c. *Marije gaat naar school en naar de universiteit Fenna.
Marije goes to school and to the university Fenna

We asked five speakers of German and five speakers of Dutch for judgements on a scale from 1 (very bad) to 5 (very good). Whereas coordination of structurally parallel conjuncts is, as expected, fully grammatical ((16a/17a), average value for German: 5.0; for Dutch: 4.9), judgements get worse when asymmetric fronting occurs in the second conjunct ((16b/17b), average value for German: 3.7; for Dutch: 3.4). Cases in which asymmetric fronting is combined with ellipsis (Gapping in (16c/17c)) receive the lowest judgements (average value for German: 2.3; for Dutch 1.5). We assume that the low acceptability of asymmetric fronting in elliptical contexts is due to the fact that the recoverability of ellipsis for interpretation relies to a high degree on the PSC, hence a parallel structure of the conjuncts involved, see also Section 2.1. Nevertheless, our small-scale pilot study also revealed an effect of asymmetric fronting in second conjuncts with a full structure, which was graded worse than its counterpart with symmetric topics. As we will see in the next sections, NGT licenses asymmetric fronting in coordinated structures. In order to show this, we will present corpus data, which will be supplemented by grammaticality judgements.

3. Coordination in sign languages

To date, the structure of complex sentences in sign languages, and of coordination structures in particular, has not received a lot of attention and has only been studied for a handful of sign languages (see Tang & Lau 2012 for an overview; for studies on subordination, see Pfau, Steinbach

& Herrmann 2016). As for coordination, the available studies suggest that sign languages generally make use of two coordination strategies: on the one hand, syndetic coordination involving an overt conjunction and, on the other hand, asyndetic coordination, whereby the conjuncts are still truly coordinated but without the use of an overt conjunction (cf. Haspelmath 2007 for spoken languages). Davidson (2013) describes both types of coordination for American Sign Language (ASL). As for the syndetic type, she shows, for instance, that the manual coordinator COORD-L (“L” for “list”), which precedes each conjunct, can signal both conjunctive and disjunctive coordination, as illustrated in (18); she refers to this ambiguity in interpretation as “general use coordination” (see Asada 2019 for general use coordination in Japanese Sign Language).⁵ In the example that Davidson provides, COORD-L is signed with an extended index finger on the dominant hand, which points first to the index (L₁) and then to the middle (L₂) finger of the non-dominant hand (see Appendix for the glossing conventions).

- (18) ASL (Davidson 2013: 7)
COORD-L₁ [POSS_{3a} PARENTS WILL BUY POSS_{3a} CAR] **COORD-L**₂ [INDEX_{3a} WILL TRAVEL].
 ‘Her parents will buy her a car, and (then) she will travel.’
 ‘Her parents will buy her a car, or she will travel.’

Syndetic disjunction in NGT is illustrated by the example in (19), which has been extracted from the Corpus NGT (see Section 4). The sign which is glossed as OR, and which appears between the two conjuncts, is actually the ‘palm-up’ sign, which has been shown to fulfill various grammatical and discourse-oriented functions in NGT (van Loon, Pfau & Steinbach 2014; cf. **Figure 1** below) and other sign languages (for a recent overview, see Cooperrider, Abner & Goldin-Meadow 2018). As we will show below, NGT also features a sign that conveys the meaning ‘and’, viz. the sign PLUS.⁶

- _____ re
 (19) SUPPOSE [HEAR IX₁ IN.LOVE] **OR** [DEAF IX₁ IN.LOVE]. (CNGT0062–S005)
 ‘Suppose that a hearing person and I are in love, or a deaf person and I are in love.’

Across sign languages, asyndetic coordination is also common. It is important to point out that we use the term “asyndetic” in the sense of combining conjuncts without the use of a manual conjunction. That is, asyndetic does not necessarily mean unmarked, as the conjuncts may be accompanied by dedicated non-manual signals. In cases where such non-manuals are used

⁵ In his typological study of coordination in spoken languages, Haspelmath (2007) refers to this type as “bisyndetic coordination” of the subtype “co-A co-B”, attested, for instance, in Yoruba (Niger-Congo, Nigeria).

⁶ Examples from the Corpus NGT are accompanied by a source code, which specifies the clip number followed by a code for the signer.

systematically and consistently, we might actually be dealing with a special case of bisyndetic coordination (see footnote 5); we return to this issue at the end of Section 5.2. In (20) and (21), we provide examples from NGT and Hong Kong Sign Language (HKSL), respectively. In both examples, no overt manual conjunction is used, but crucially, the conjuncts are accompanied by non-manual markers that scope over each of the conjuncts. In the conjunctive coordination in (20), this is a body lean ('bl') towards the location in the signing space that has been established for the respective subject in each conjunct. In the disjunctive coordination in (21), the two conjuncts, which consist of single signs, are non-manually marked by head nods ('hn') and body turns ('bt') to opposing sides of the signing space.

(20) *NGT* (Pfau 2016: 165)

bl-3a	bl-3b
MOTHER IX _{3a} MARKET IX _{left} GO _{left}	SON IX _{3b} FRIEND IX _{right 3b} VISIT _{right}
‘The mother goes to the market (and) her son visits a friend.’	

(21) *HKSL* (Tang & Lau 2012: 343)

hn + bt right	hn + bt left
IX ₁ GO-TO BEIJING, (pro ₁) TAKE-A-PLANE,	TAKE-A-TRAIN.
‘I am going to Beijing. I will take a plane or a train.’	

Although elliptical data will not play a role in our analysis, we would like to complete the picture on coordination in sign languages by briefly turning to ellipsis. The few available studies on ellipsis in sign language coordination address Gapping and VP-ellipsis (VPE). The former is illustrated by the ASL example in (22), in which the verb BRING is elided three times. According to Liddell (1980), the Gapping site can be marked by a head nod ('hn') in ASL. The Catalan Sign Language (LSC) example in (23) exemplifies VPE, where the sign ALSO serves as a place-holder for the elided VP in the second conjunct (similar to English *too*).⁷ Moreover, the first conjunct is accompanied by a body lean (see also Cecchetto et al. 2015 and Koulidobrova 2017 for VPE in Italian Sign Language and ASL, respectively). The elided constituents are not represented in the signed examples ('re' = raised eyebrows, 'hf' = head forward).

⁷ In her analysis of LSC, Zorzi (2018a: 280) demonstrates that Gapping in this language is not restricted by the same constraints that govern Gapping in many spoken languages. This is shown in (i) for the ‘No Embedding Constraint’ (Hankamer 1979), which prohibits Gapping of a verb in an embedded clause if the antecedent is contained in the matrix clause. While the LSC example is grammatical, the English translation is not.

(i) *LSC* (Zorzi 2018a: 280)
 JORDI DOUGHNUT EAT, MARINA SAY IX_{3j} MARC_j CROISSANT EAT.
 intended: ‘*Jordi ate a doughnut, and Marina said that Marc a croissant.’

(22) ASL (Liddell 1980: 37)

$\underline{\quad\quad\quad}$ hn $\underline{\quad\quad\quad}$ hn $\underline{\quad\quad\quad}$ hn
 INDEX₁ BRING SALAD, JOHN BEER, SANDY CHICKEN, TED HAMBURGER.
 ‘I brought the salad, John (brought) the beer, Sandy (brought) the chicken, and Ted (brought) the hamburger.’

(23) LSC (Zorzi 2018a: 293)

$\underline{\quad\quad\quad}$ bl ipsilateral
 $\underline{\quad\quad}$ re + hf re + hf
 MARINA FRUIT₃GIVE₁ JORDI₃AUX₁ ALSO.
 ‘Marina gave me some fruit, and Jordi did, too.’

Examples (22) and (23) nicely illustrate that the remnants in elliptical coordination structures, that is, the overt constituents after ellipsis, stand in a relation of contrast to their overt counterparts in the first conjunct. This is indicated by non-manual markers on the contrasting pairs across the conjuncts: a head nod marking the Gapping site in ASL (22), raised eyebrows (‘re’) and head forward (‘hf’) in LSC, which, according to Zorzi (2018a), are used to mark focalized elements (23). Thus, these non-manual markers can be seen as direct correlates of contrastive accent in spoken languages, which are necessarily associated with the remnants in coordinated structures (see Hartmann 2000).

We searched in all the studies on coordination in sign language that we are aware of – basically the studies mentioned above, as well as some textbooks (e.g., Johnston & Schembri 2007; Pfau 2016) – for examples of asymmetric coordination of the type illustrated in (1). We only found two examples that exhibit word order asymmetries across the two conjuncts, one from LSC, the other from HKSL. Both involve asyndetic conjunctive coordination. Example (24), from LSC, displays an asymmetry within the VP in that it shows OV order in the first conjunct, but VO order in the second conjunct. Example (25), from HKSL, is asymmetric in that the *wh*-adjunct YEAR^{WH5} (‘what year’) precedes the verb in the first conjunct, and follows the verb in the second.

(24) LSC (Zorzi 2018a: 151)

[MARINA_j PIZZA BUY] [SON IX₃-POSS_j PREPARE SANDWICH].
 ‘Marina bought a pizza, and her son prepared some sandwiches.’

(25) HKSL (Gan 2019: 36)

[INDEX₂ YEAR^{WH5} START ENTER-SCHOOL] [TO GRADUATE YEAR^{WH5}?]
 ‘In what year did you enter the school, and in what year did you graduate?’

Yet, asymmetric conjunction is not explicitly discussed in any of these studies. Therefore, we cannot say with certainty how productive the pattern is, based on the literature alone. For this

reason, we carried out a corpus study, the methodology and results of which we will present in the next sections.

4. Methodology

As a data source, we used the Corpus NGT, a partly annotated and translated database of natural signed dialogues (<https://www.ru.nl/corpusngten/>; Crasborn & Zwitserlood 2008; Crasborn, Zwitserlood & Ros 2008). In the video clips, native signers (age 18–84 years) interact in pairs. The dialogues are annotated in ELAN, which allows for searches on different annotation tiers. A search for the relevant coordinators was performed on the entire annotated and/or translated part of the corpus, and hits were used after verification. The identification of syndetic coordinated structures was straightforward, as we could search on the gloss tier of the annotation for overt manual conjunctions, which are glossed as OF ('or') and PLUS, the latter corresponding to English 'and' (remember that we excluded adversative coordination). Asyndetic coordinated structures were found by searching for the corresponding Dutch coordinators *of* and *en* on the translation tier.⁸

In total, we obtained 4,457 hits; many of these, however, turned out to be irrelevant for one of the following reasons:

- overlap in glosses and translations (e.g., gloss 'of' appears on gloss and translation tiers);
- two-handed signs, as these are glossed on two tiers (right/left hand); the sign PLUS is always two-handed, while OF can be one- or two-handed;
- no coordination was involved (that is, instances of juxtaposition as defined in Section 2.1).

So, for instance, a single use of the coordinator PLUS would always yield three hits, two on the gloss tier and one on the translation tier. At the end, we extracted 285 coordinated structures from these hits, which we analyzed with respect to coordination type. The distribution of coordination strategy (syndetic vs. asyndetic) across coordination type (conjunction vs. disjunction) is presented in **Table 1**. In the present study, we are not concerned with the relation between strategy and type, but it is worth mentioning that our data set suggests that asyndetic coordination is more common in conjunction (124/169 = 73%) than in disjunction (39/116 = 34%).

The original goal of extracting coordination data from the Corpus NGT was to study coordination and ellipsis in NGT more generally. However, when classifying the examples, we coincidentally spotted some instances of coordination displaying asymmetric word order. This sparked our curiosity, and we therefore coded all examples for word order within conjuncts. In total, we identified 18 instances of asymmetric coordination (6.3%), which were produced by 12 different signers.

⁸ Note that the clips are not annotated for the relevant non-manual markers that might mark coordination, such as body leans and head tilts. Searching for such non-manual signals was therefore not an option.

	Syndetic	Asyndetic	Total
Conjunction	45	124	169
Disjunction	77	39	116
Total	122	163	285

Table 1: Distribution of coordination types across the examples extracted from the analyzed data set (N = 285).

In order to verify the grammaticality of these 18 examples, we subsequently consulted two native signers of NGT and discussed the examples with them in two separate sessions. Both signers work or have worked as NGT teachers, and one of them has many years of experience with linguistic research (including corpus work and data annotation). Therefore, they have solid meta-linguistic awareness. First, we showed them the examples (with a preceding context), without revealing the goal of our study, and asked them (in NGT) whether they considered them grammatical – which both of them did (with the qualification mentioned in footnote 16). Subsequently, we pointed out the asymmetry (which, indeed, neither of the two signers had noticed). With one of the signers, we then discussed six further constructed examples: two each for syndetic conjunction and disjunction, one each for asyndetic conjunction and disjunction. Each of these examples shared the relevant structural properties with an example extracted from the corpus, but the predicates and/or arguments were replaced. The signer was asked to judge the examples on a 5-point Likert scale; all examples received a rating of 4 or higher.

5. Results

Our corpus search yielded examples of syndetic and asyndetic conjunction and of syndetic and asyndetic disjunction in NGT. As expected, in most of the examples we extracted from the corpus, the conjuncts are symmetrically structured, and we will discuss these cases first (Section 5.1), before turning to the typologically more intriguing cases of asymmetric coordination (Section 5.2).

5.1 Symmetric coordination

In the syndetically coordinated examples in (26), the conjuncts both show identical word order, VO in the conjunction in (26a) and OV in the disjunction in (26b). The two conjunctions used in these examples are illustrated in **Figure 1**. As for non-manual marking,⁹ it seems that in (26a), the head

⁹ For all NGT coordination examples we present, we make an effort to specify the non-manual markers. It has to be noted, however, that for some of the examples, it was quite challenging to detect the non-manuals, be it because of the camera angle or because of the fact that the head and/or body movements, which might signal coordination, were very subtle. We went through each clip many times but we cannot exclude the possibility that some relevant markers have been overlooked.



Figure 1: The manual coordinators PLUS ('and') and OR (one-handed variant) used in NGT coordination.

moves slightly to the left when PLUS is articulated (as is visible in **Figure 1**); this head tilt ('ht'), however, is not maintained throughout the second conjunct. Note that the direction of the head tilt does not align with the manual localization, as it is actually the school in the first conjunct that is clearly localized on the left side of the signing space. (26b) does not feature clearly discernible non-manuals on the conjuncts, but the clause-initial conditional conjunction is accompanied by raised eyebrows, a marker that is common, yet not obligatory in NGT conditionals (Klomp 2019).

- (26) a. [GUYOT IX₁ DO H-A-V-O V-S-O IX_{left} SCHOOL IX_{left}]
 _____ht-left
 PLUS [LATER IX₁ STUDY IX_{front} TEACHER DUTCH]. (CNGT0411-S022)
 'At Guyot I did HAVO at a VSO school, and later I studied (to become a)
 Dutch teacher.'
- _____re
 b. SUPPOSE [HEAR IX₁ IN.LOVE] OR [DEAF IX₁ IN.LOVE]. (CNGT0062-S005)
 'Suppose that a hearing person and I are in love, or a deaf person and I are in love.'

Both manual conjunctions we consider here are also commonly accompanied by mouthings, that is, silent articulations of the corresponding Dutch word. For PLUS, this is either *en* ('and') or *plus* (note that the latter is not commonly used in Dutch coordination); for OR, the mouthing is *of* ('or'). We do not gloss mouthings in the examples.¹⁰

¹⁰ A reviewer brought to our attention that there is another manual sign that may be used in conjunctive coordination in NGT: the sign which is glossed as BIJ-A in the Corpus NGT. In this sign, the hand closes, such that the thumb makes contact with the fingertips of the other four fingers. Following the reviewer's comment, we conducted a corpus search, which yielded 154 instances of BIJ-A. We checked 40 hits in detail, and found only one example in which BIJ-A is clearly used as a coordinator, see (i).

Coordination in NGT may also be asyndetic, hence be realized without an overt manual conjunction, as explained in Section 3. Again, in most of the cases we found, the order of the conjuncts is symmetric. In the disjunction in (27a), the conjuncts exhibit a symmetric OV order, while in the conjunction in (27b), the order is VO in both conjuncts. Note that in (27a), the subjects (i.e., the contrasted groups) are articulated at opposing sides of the signing space. In this particular example, the verb in the first conjunct is accompanied by a body lean towards the ipsilateral side of the signing space, at which the subject GROUP has been localized; note that the verb TALK cannot be localized, as it is body-anchored. In the second conjunct, the situation is the reverse: there is no (visible) contrasting body lean on the second conjunct but the verb is localized. The example thus suggests a trade-off between manual and non-manual marking of the two verbs. In (27b), manual signs are not localized, but we observe a head tilt to the right on the second-conjunct verb WAIT.¹¹

bl-3a

- (27) a. DOES.NOT.MATTER, SAME VALUE, [GROUP_{3a} TALK] [GROUP_{3b} SIGN_{3b}].
 ‘It does not matter, (they are) equivalent; a group that talks
 (or) a group that signs.’ (CNGT0511–S026)

ht-right

- b. [DRIVE INTO DEN.BOSCH] [IX₁ WAIT TRAFFIC.LIGHT]. (CNGT0050–S005)
 ‘(We) drove into Den Bosch, (and) we had to wait at a traffic light.’

Taken together, beyond the use of overt conjunctions, we observed manual and non-manual spatial strategies for marking coordination: the conjuncts, or parts thereof, may be localized at opposing sides of the signing space, and one or both of the conjuncts, or parts thereof, may be accompanied by non-manual markers that target the same spatial loci, such as body leans and head tilts/turns. Further examples illustrating some of these strategies will be presented in the next section.

(i) EFFATHA BIJ-A ST-MICHELSGESTEL, IX₁ ALWAYS ACTUALLY LITTLE AGAINST IX₁.
 ‘As for Effatha and St-Michielsgestel, I always feel some resistance.’

Other instances of BIJ-A may, depending on context, receive different translations, such as ‘at’, ‘with’, or ‘part of’. Based on our corpus search, we cannot conclude that BIJ-A is commonly used in coordination in NGT. It might be the case that it can serve as what Haspelmath (2007) calls a “comitative conjunction”, an element linking NPs that is identical to a marker for accompaniment (as, for instance, the Russian marker *s*, which can mean ‘with’ as well as ‘and’).

¹¹ Note that symmetric coordination in NGT may also involve ellipsis, independently of the presence of a manual conjunction. However, it is worth pointing out that we found few examples containing ellipsis. This could be accidental, but it could also be due to the fact that ellipsis in coordination is not commonly used in NGT.

5.2 Asymmetric coordination

Interestingly, our results also reveal that NGT allows for a syntactic asymmetry across conjuncts that has not been noticed in the literature. We identified two different types of asymmetry, which we will discuss in turn: the first type involves asymmetric order between the verb and an object or adjunct; the second type involves an asymmetry regarding a subject pronoun and the verb.

As for the first type, we start by noting that the literature is not unanimous concerning the question of the basic word order of NGT. Both orders, SOV and SVO are attested (Coerts 1994; Oomen & Pfau 2017). We do not take a stance regarding the issue whether NGT has flexible word order, or whether one of the two orders is basic and the other one derived, since it is irrelevant for our argument. What matters is that the order between the object and the verb may vary between the first and second conjunct, thus violating the PSC. Consider the examples in (28), where one of the conjuncts shows an OV order whereas the other displays a VO order: VO–OV in (28a), OV–VO in (28b). These patterns are in clear violation of the PSC. Note that the question whether the conjuncts are syndetically or asyndetically coordinated does not have an impact on the issue under debate. Again, we also checked the examples for the presence of non-manual markers. In (28a), we observe contrasting body leans on the objects that align with the loci marked on the verbs. In (28b), some very slight head movements appear to be motivated by the fact that the sign CI is articulated on the head, that is, the head bends towards the hand articulating the sign.

- _____ bl-3a _____ bl-3b
- (28) a. CI [GO₊₊_{3a} S-H SCHOOL] [HEARING SCHOOL GO_{3b}]. (CNGT0299–S017)
 ‘Because of the CI, (children) go to a hard-of-hearing school (or) go to a hearing school.’
- b. WHEN DILEMMA CHOOSE [CI TAKE.OFF] OR [STAY CI]. (CNGT0529–S025)
 ‘When (you) feel ambivalent, (you can) choose, take the CI off or keep the CI.’

We argue that the word order variation follows from asymmetric fronting of a constituent in one of the conjuncts, which has the effect of a contrastive focus interpretation. Given that it is not clear whether NGT is OV or VO and that in addition, it is a pro drop language, we cannot decide whether asymmetric fronting takes place in the first or in the second conjunct. Both analyses are possible. We briefly return to this question in Section 6. A contrast is established across the conjuncts. In (28a), the locative argument HEARING SCHOOL in the second conjunct is contrasted to S-H SCHOOL (‘hard-of-hearing school’) and in (28b), the verb STAY in the second conjunct is contrastively focused to TAKE.OFF in the first.¹²

¹² One of the Deaf signers with whom we discussed the examples pointed out that in (28b), the word order in the first conjunct may be motivated by phonological factors: the sign CI is articulated behind the ear, and the movement of the verb TAKE.OFF begins at that very location. Consequently, the OV order allows for a smooth transition between the signs. While a phonological motivation indeed appears likely in this case, the fact remains that the order in the

The second type of asymmetry we observed involves coordination with a clause-final subject pronoun in the second conjunct. The use of such clause-final pronouns has been described for various sign languages, and has been referred to as ‘subject pronoun copy’ (see Padden 1988 for ASL, Torigoe 1994 for Japanese Sign Language, and Bos 1995 for NGT). The phenomenon is illustrated for NGT in (29). While it is impossible to have full subject noun phrases in clause-final position, pronominal subjects commonly appear clause-finally. The clause-final pronoun may co-occur with a full NP in the canonical subject position (although, according to Bos 1995, this is rarely the case in NGT), with a pronoun in the canonical subject position (29a), or by itself (29b) – according to Bos, the latter case results from a combination of pro-drop and subject pronoun copy (‘q’ refers to a non-manual marker accompanying polar questions, i.e., raised eyebrows).¹³

- (29) NGT (Bos 1995: 122, 128)
- a. INDEX₁ EVERYBODY TELL INDEX₁.
‘I have told everybody.’
- b. GOOD $\overset{\text{q}}{\text{INDEX}_{3a1}} \text{TAKE-CARE}_{3a2}$ INDEX_{3a1}?
‘Does he take good care of her?’

In our asymmetric coordination data, however, there never is a clause-initial subject (pronoun) in the conjunct involving a clause-final pronoun, that is, we only observe VP–S, but no S–VP–S structures. Also, the VP–S structure is only observed in the second conjunct of the asymmetric cases (i.e., [VP–S] [S–VP] is not attested). We thus propose to subsume apparent pronoun copies appearing in asymmetric coordination under our analysis, that is, we suggest that these cases result from asymmetric fronting in the second conjunct, just as in the examples in (28).

Given that NGT is a pro drop language (Bos 1993), subject pronouns are generally optional. If present, we assume that they always fill the subject position in the cases under discussion. Any constituent preceding them must then have been fronted to the clause-initial position for information-structural reasons. In the examples in (30), both of which exemplify disjunctive coordination, the presence of the subject pronoun in post-verbal position in the second conjunct – a third-person pronoun in (30a), a first-person pronoun in (30b) – syntactically implies a

second conjunct is different. After all, nothing would have prevented the signer from also using OV order in the second conjunct.

¹³ As for the function of subject pronoun copy, scholars investigating ASL have argued that it serves to mark emphasis (Padden 1988) or focus (Petronio 1991). For NGT, Bos argues against an account in terms of emphasis/focus (see Bos 1995: 134f for arguments) and suggests that pronoun copy is a strategy for identifying the subject of a clause. She observes, for instance, that “final subject pronouns occur significantly more often when there is no subject agreement” (Bos 1995: 135). See Crasborn et al. (2009) for a reanalysis of subject pronoun copy in NGT in terms of topic agreement.

contrastive focus interpretation of the initial VP.¹⁴ In accordance with our proposal, we assume that the predicates in the second conjuncts in (30) are fronted and contrastively focused with respect to the predicates in the first conjuncts.¹⁵

As for non-manual marking, we only observe raised eyebrows on the second conjunct in (30a) (possibly because it is an embedded question, which, however, is also true for the first conjunct). In (30b), the (left-handed) signer leans forward during the articulation of BUSY, which is part of a temporal adverbial clause and thus outside the conjuncts – this forward lean ('fl') might well be a lexically specified non-manual. During the first conjunct, there is a head turn ('hturn') to the left, and eye gaze ('eg') is also to the left; during the articulation of OR, the head returns to neutral position, and during the second conjunct, eye gaze appears to be at the interlocutor. That is, the two conjuncts are not marked by contrasting non-manuals (left – right), but still non-manual marking differs across the conjuncts.

- (30) a. T-E-S-T [IX₃ HUNDRED PERCENT DEAF] OR re [BIT HEAR IX₃]. (CNGT0295–S017)
 '(They) test whether he is 100% deaf or whether he hears a little bit.'
- b. fl hturn + eg-left eg-neutral
 IX_{left} BUSY [IX₁ NOT INTERRUPT] OR [STOP NOT IX₁]. (CNGT1587–S068)
 'When he is busy, I must not interrupt or not stop (him).'

Having presented some symmetric and asymmetric NGT examples, let us briefly return to the issue of non-manual marking. We extracted some examples from the corpus in which one or both of the conjuncts are marked by head or body movements (for instance, (27b) and (28a)). This type of marking, however, appears not to be used consistently, not even in the examples

¹⁴ Note that (30b) presents us with the additional complexity of the position of negation vis-à-vis the verb. However, based on corpus data, Oomen & Pfau (2017) have shown that NGT allows for pre-VP and clause-final positioning of the manual negator NOT, without difference in meaning.

¹⁵ A reviewer points out that the examples in (30) might involve pronoun copies after all. As the subjects are the same in both conjuncts, the final pronoun might copy the subject of the first conjunct. According to the reviewer, this should be possible if what is coordinated are VPs, not CPs – a possibility that is not considered by Padden (1988), who argues for ASL that a pronoun copy in the second conjunct can never be co-referent with the subject of the first conjunct. According to this line of reasoning, the structure for (30a) would actually be as given in (i):

(i) IX₃ [_{VP} [_{VP} HUNDRED PERCENT DEAF] OR [_{VP} BIT HEAR]] IX₃.

For sure, this is an interesting proposal, but at present, we are not in a position to verify it. We note that the available studies on pronoun copying suggest that the conditions under which it is allowed may differ from SL to SL (van Gijn 2004, for instance, observes that pronoun copying in NGT is subject to different constraints than it is in ASL). We therefore cannot take for granted that the same conditions apply across SLs. Crucially, for NGT, it has not been investigated yet whether a pronoun copy is allowed when two VPs are coordinated – and the corpus data are not informative in this respect.

that lack a manual conjunction. It thus seems to us that it would be premature to conclude that body leans or head tilts are dedicated, possibly prosodic, markers of coordination in NGT. After all, such markers are also commonly used in spoken face-to-face conversation. Consequently, the cases that we subsumed under asyndetic coordination, as they do not involve manual markers of coordination, may be truly asyndetic in that they do not employ any grammatical markers, be they manual or non-manual. Of course, as also remarked by a reviewer, future studies might reveal that in fact three distinct types of coordination have to be distinguished: manual syndetic coordination, non-manual syndetic coordination (which we referred to as ‘asyndetic’), and truly asyndetic coordination (i.e., juxtaposition).

In **Table 2**, we provide an overview of the numbers of examples involving asymmetric coordination that we extracted from the Corpus NGT. In total, we found 18 cases that display asymmetric coordination, both conjunctive and disjunctive as well as syndetic and asyndetic ones. Four out of these 18 cases (22%) are asymmetric due to the use of a clause-final subject pronoun in the second conjunct.

Admittedly, the number of examples is rather small. Still, given that asymmetric fronting tends to be ungrammatical in English and German, we think that the number is too high to dismiss the examples as production errors (also remember that they were produced by 12 different signers). This is further supported by the fact that the two native signers whom we consulted both considered the examples grammatical and perfectly natural.¹⁶ What is more, one of the signers mentioned by herself that she would interpret the asymmetry as signaling contrast.

Type	Asymmetric fronting
Syndetic OF (‘or’)	7
Syndetic PLUS (‘and’)	6
Asyndetic <i>of</i> (‘or’)	2
Asyndetic <i>en</i> (‘and’)	3
Total	18

Table 2: Asymmetric coordination resulting from asymmetric fronting in our NGT data (N = 18).

¹⁶ Only the example in (30b) was considered marked by one of the signers, but discussion revealed that this was not due to the asymmetric positioning of the pronoun but rather had to do with the presence and varying position of NOT. She indicated that for her, it was much more natural to negate a clause by means of a headshake only (which indeed is common in NGT; see Oomen & Pfau 2017), or, when NOT is used, to place it in the clause-final position.

This being said, we briefly return to the constructed examples which were modeled based on corpus examples. One of these examples is the syndetic disjunction presented in (31), which is modeled on corpus example (28b). As mentioned before, we discussed these examples with one of the signers, and the one in (31) was rated with the highest score on the Likert scale (remember that all constructed examples received a score of 4 or higher on a 5-point scale). During the discussion, the signer confirmed that asymmetric examples are likely to receive a contrastive interpretation.

- (31) WHEN HUNGRY [RESTAURANT GO.TO] OR [EAT HOME].
 ‘When I’m hungry, I go to a restaurant or eat at home.’

Admittedly, by itself, the judgement of a few examples by a single signer may not constitute strong evidence in favor of asymmetric coordination; we think, however, that the high ratings lend further credibility to our claim that asymmetric coordination is available in NGT as a strategy for marking contrast.

6. Analysis

We assume a cartographic approach (Rizzi 1997) for the representation of topic and focus phrases in NGT. For sign languages in general, it has been shown that the clausal left periphery hosts the information-structure-related functional projections TopP and FocP, which represent the landing sites of syntactically marked topic and focus phrases, on a par with what has been suggested for many spoken languages (e.g., Neidle et al. 2000; Lillo-Martin & de Quadros 2008; Aboh & Pfau 2010; Brunelli 2011; Wilbur 2012; Kimmelman & Pfau 2016). Topics are commonly realized by fronting them to TopP, and topicalization is often flagged by non-manual markers, which have been analyzed as the equivalent to prosodic prominence in spoken languages (e.g., Sandler 1999; Kimmelman 2015: 160). Across sign languages, the most common non-manual marker accompanying topics are raised eyebrows, but other markers have also been observed. If the non-manual markers are present, they typically scope over the entire fronted topic phrase (e.g., Aarons 1996 for ASL; Sze 2011 for HKSL; Herrmann 2015 for German Sign Language; Kimmelman 2015 for NGT and Russian Sign Language). An example of topic fronting from NGT is given in (32). The topic AIRPLANE is the subject and represents an aboutness topic. The sign is accompanied by a non-manual marker (raised eyebrows, possibly accompanied by a forward head movement), indicated by ‘top’, and its manual articulation is lengthened (as indicated by the horizontal line; ‘neg’ represents a side-to-side headshake signaling negation).

- (32) *NGT* (Coerts 1992: 223)
- | | |
|-----------|----------|
| | |
| top | neg |
| AIRPLANE— | COME NOT |
- ‘As for the airplane, it did not arrive.’

Focus in sign languages shows syntactic variation as to where the focused phrase may appear, which again is a variation that is also observed for spoken languages. Focus may be realized in its canonical position, hence the position where the focused constituent is merged (= in situ focus). In many spoken and sign languages, in situ focus is marked prosodically. For NGT, it has been observed that the focused constituent is characterized by a longer duration, a larger movement, and/or a higher velocity of the movement (Crasborn & van der Kooij 2013). Focus may also be realized in a non-canonical position, which often is a position in the left periphery of the clause (= ex situ focus; but see, e.g., Petronio 1991 for a clause-final focus position in ASL). Ex situ focus is a syntactic focus marking strategy, which may or may not be a secondary strategy to prosodic focus marking. This is illustrated with an example from German, an SOV language, where a focus – be it in situ or ex situ – necessarily carries the focal accent. In (33), the indirect object pronoun is fronted. If it is the focus of the clause, as suggested by the preceding *wh*-question, it needs to carry the nuclear accent irrespective of its position. In languages without prosodic focus marking (as in many African tone languages), syntactic focus fronting is often the only strategy to mark a focus (see, e.g., Hartmann & Zimmermann 2007 on Hausa).

- (33) *German*
- Q: Who didn't like the cereals this morning?
- A: [_{FOC} MIR] hat das Müsli heute morgen nicht geschmeckt.
 to.me has the cereal today morning not tasted
 ‘I didn't like the cereals this morning.’

The question whether the two focus positions are associated with different types of focus is debated in the literature. Thus, new information focus, that is, focus in response to a *wh*-question, has been assumed to be realized preferably in the in situ position. Contrastive focus, on the other hand, which expresses a contrast to some preceding or contextually salient proposition (Umbach 2004; Repp 2016), has often been claimed to be more marked and hence to be preferably realized ex situ (cf. É. Kiss 1998; Vallduví & Vilkkuna 1998, among many others). Although this correlation for sure is not strictly one-to-one, it is certainly a tendency across languages.

In NGT, contrastive and non-contrastive (new information) foci may both be realized *ex situ*, hence target the specifier of FocP, or remain in their *in situ* position, where prosodic stress – marked in the way described above – is the only indication of focus. Again, there is a tendency for the more marked contrastive focus to appear in SpecFocP (Kimmelman 2019). The ASL example in (34) illustrates *ex situ* focus ('t-c' = topic-comment topic; 'I-focus' = information focus). In addition, the example shows that topics and foci may co-occur in the left periphery of the clause, which is very good evidence for the cartographic approach to sign languages assumed in the present paper (cf. Bross 2018; Kimmelman & Pfau 2021).

(34) ASL (Lillo-Martin & de Quadros 2008: 169)

Q: FRUIT, WHAT JOHN LIKE?

'As for fruit, what does John like?'

 t-c I-focus

A: FRUIT, BANANA, JOHN LIKE MORE

'As for fruit, John likes bananas best.'

With respect to coordination, we adopt Zorzi's (2018b) proposal that sentential conjuncts exhibit topic and focus projections as well. Thus, in the LSC Gapping example in (35), the contrastive subject topics occupy SpecTopP (= C.TOPIC in Zorzi's representation) while the contrastive foci are realized in SpecFocP (= C.FOCUS) – these constituents are arranged in a parallel fashion in the two conjuncts.

(35) LSC (Zorzi 2018b: 78)

[_{C.TOPIC} MARINA] [_{C.FOCUS} COFFEE] PAY [_{C.TOPIC} JORDI] [_{C.FOCUS} CROISSANT].

'Marina paid for a coffee and Jordi for a croissant.'

We follow Munn (1987), who assumes a binary structure for coordination, called BP, which is headed by a 'Boolean' element B, the coordinating element. According to Munn, the first conjunct is located in the specifier of the BP, while the second is a complement of its head. As has been shown in Section 5, in NGT, the head of the BP can be overt (syndetic coordination) or covert (asyndetic coordination).

With these background assumptions, we analyze asymmetric fronting in NGT as asymmetric movement in the second conjunct of a contrastively focused constituent to SpecFocP. For illustration, consider again example (28a), repeated below as (36). Here, we also provide the context preceding the example, for which we propose the syntactic structure in **Figure 2**.¹⁷

¹⁷ The structure in Figure 2 assumes an underlying VO order for NGT. We would like to point out again that OV orders are also attested (Coerts 1994; Oomen & Pfau 2017). In this contribution, we do not discuss this issue any further. What is relevant to us is the fact that the word order differs in the two conjuncts.

- (36) Context:¹⁸ *Sometimes, I stop by at the V-S-O (Higher Special Education) or S-O (Special Education) school. There, I see a lot of children signing as well as the teachers – that’s beautiful. They say that in the future, Deaf education might shrink more and more ...*

_____ bl-3a _____
_____ bl-3b _____

CI [GO_{3a} S-H SCHOOL] [HEARING SCHOOL GO_{3b}]. (CNGT0299–S017)

‘Because of CI, (children) go to a hard-of-hearing school (or) go to a hearing school.’

The coordinated structure in **Figure 2** is preceded by a shared topic (‘CI’) in SpecTopP. The asymmetically coordinated BP consists of two conjuncts, FocP₁ and FocP₂. The coordination is asymmetrical since the focused locative DP S-H SCHOOL (‘hard-of-hearing school’) in the first conjunct is licensed in situ by the covert head Foc₁. In the second conjunct, however, the contrastively focused DP HEARING SCHOOL overtly moves to the specifier of FocP₂. Thus, the structure in **Figure 2** clearly violates the PSC.

An obvious question emerging from this line of reasoning is whether asymmetric fronting is confined to the second conjunct. After all, an asymmetry across conjuncts might also result from reordering (movement) in the first conjunct. However, a closer look at the examples

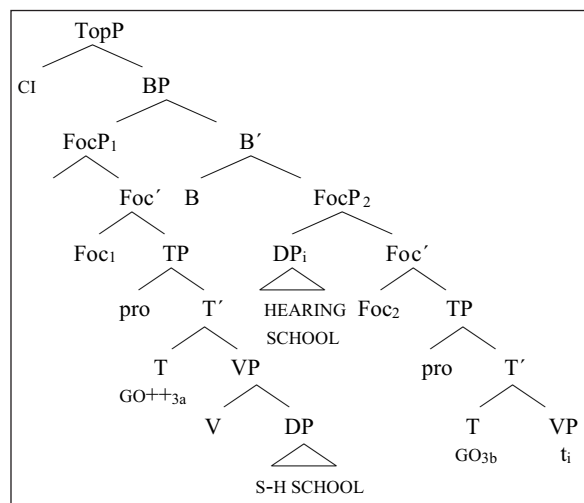


Figure 2: Structure for example (28a)/(36), with DP-fronting in second conjunct.

In Figure 2 as well as in Figure 3, the conjuncts exhibit a symmetric structure, both being FocPs. One of our reviewers correctly pointed out that there is an alternative analysis. Thus, one could give up the symmetry of the conjunct size and assume that the first conjunct projects just a TP. This would add to the asymmetric structure that holds across the conjuncts anyway. We think that both structural options are possible and leave the issue open.

¹⁸ We provide a context in this and the following example, as this has been requested by one of our reviewers. However, the context does not have a crucial impact on the phenomenon that we are investigating. This is due to the fact that the two conjuncts in a coordination provide contexts for each other (Hartmann 2000).

shows that for most of them, such an alternative scenario is unlikely. In (36), for instance, the verb (GO) is the same in both conjuncts (although it carries different inflections). It is thus unlikely that fronting has taken place in the first conjunct in order to contrast the verbs; rather, based on the context, it is quite clear that the (locative) objects are contrasted, which implies that fronting has indeed taken place in the second conjunct (the same is true for (28b), where the object (CI) is the same in both conjuncts, suggesting that the verb has been fronted in the second conjunct).

The examples involving clause-final subject pronouns discussed in Section 5.2 can be accounted for along similar lines. In (37), we repeat example (30b) for convenience, providing also the preceding context. This example is actually from the beginning of a recording, and preceding the example, the two signers (S067 and S068) take turns.

(37) Context: S067: *The cameras are now switched on, for one hour. I assume we will just have a pleasant signed conversation; we should be quiet.* S068: *But I think there won't be a delay in telling ...*

$\underline{\text{fl}}$ $\underline{\text{hturn + eg-left}}$ $\underline{\text{eg-neutral}}$
 IX_{left} BUSY [IX₁ NOT INTERRUPT] OR [STOP NOT IX₁]. (CNGT1587–S068)
 ‘When he is busy, I must not interrupt or not stop (him).’

In **Figure 3**, we present the structure we assume for this coordinated clause. In this example, the contrasting foci are the predicates INTERRUPT and STOP. As in (36), we observe asymmetric movement of a constituent to SpecFocP in the second conjunct; in contrast to (36), what is moved is the focused VP, thus creating a strong contrast to the predicate of the first conjunct.

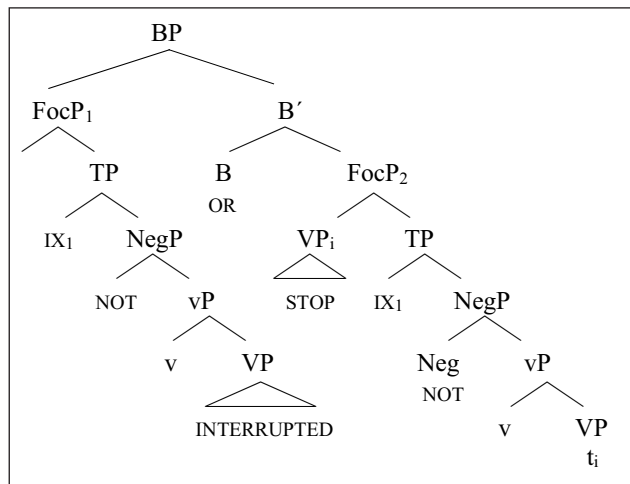


Figure 3: Structure for example (30b)/(37), with predicate fronting in second conjunct.

After VP-movement, the subject pronoun, which – just as in the first conjunct – occupies SpecTP, appears in clause-final position in the second conjunct (i.e., it is not a ‘pronoun copy’).¹⁹

Given that in situ focus is an option in principle in NGT, also for contrastive focus (Crasborn & van der Kooij 2013), the question emerges why (asymmetric) focus movement takes place in the second conjunct after all. As we have pointed out above, there is no one-to-one relation between syntactic position and interpretation of a focus constituent as being contrastive or non-contrastive – a fact that also holds for spoken languages. We would like to propose that the need to establish a focal contrast across conjuncts of a coordinated structure might at times be such that some NGT signers consider prosodic marking of an in situ focus not to be strong enough. Hence, fronting of the focused constituent to SpecFocP₂ yields a stronger marking, which might be perceived as being more compatible with the contrastive focus interpretation by some signers.

It is interesting to note that NGT differs from German and Dutch in this respect. As pointed out in Section 2.2, the speakers whom we consulted consider asymmetric fronting in coordination as marked, in comparison to the symmetric cases. The PSC may not be violated in these languages, that is, contrastive pairs across conjuncts must be either both in situ, or both fronted. Thus, a structurally symmetric distribution of the foci is clearly preferred. We illustrate the working of the PSC again with the German Gapping examples in (38). The conjuncts in (38a,b) are symmetric in that the foci are either both in situ (38a), or both fronted (38b). (38c) is ungrammatical due to asymmetric fronting of the locative adverbial in only the second conjunct. Note that the contrast also exists without ellipsis, however, it is less strong, at least in German.

(38) *German*

Q: Where are your grandparents?

- a. Der Opa liegt auf dem Sofa und die Oma ~~liegt~~ im Bett.
 the grandpa lies on the sofa and the grandma in.DAT bed
 ‘Grandpa is lying on the sofa, and grandma in bed.’
- b. Auf dem Sofa liegt der Opa und im Bett ~~liegt~~ die Oma.
 on the sofa lies the grandpa and in.DAT bed the grandma
 ‘Grandpa is lying on the sofa, and grandma in bed.’
- c. *Der Opa liegt auf dem Sofa und im Bett ~~liegt~~ die Oma.
 the grandpa lies on the sofa and in.DAT bed the grandma

¹⁹ We adopt the analysis of NGT negation proposed by Oomen et al. (2018). Leaving some complexities aside, Oomen et al. assume that the VP moves to SpecNegP, resulting in clause-final placement of NOT, which is one of the options for the placement of NOT, the other one being a position preceding the VP, as in the first conjunct in (37).

We speculate that the impact of prosody on focus realization differs between NGT and languages like Dutch or German. In the latter, spoken languages, the prosodic accents unequivocally indicate the position of the matching contrast pairs across the conjuncts. The pitch accents in the first conjunct create an intonational pattern that is repeated in the second conjunct. The constituents subsumed under this pattern in the second conjunct are automatically interpreted in parallel syntactic positions as their matches in the first conjunct. Obviously, asymmetric focus fronting disrupts this relation. In NGT, on the other hand, where *in situ* focus can in principle also be marked prosodically, the intonational pattern derived from the first conjunct does not necessarily provide a blue-print for the second. Thus, NGT signers have two options at their disposal for arranging the contrasting pair across the two conjuncts: either they leave the member of the pair in the second conjunct in its canonical *in situ* position, or they choose to express a stronger formal marking of the contrast by moving the focus to the clause-initial position. Future research should investigate whether there are additional factors that favor choice of one strategy over the other. It might, for instance, be the case, that the *ex situ* focus strategy is at times preferred because the available *in situ* markers are overlaid by, or in conflict with, other markers that commonly flag coordination (e.g., body leans, localization of signs in space). Also, it would be interesting to study whether comparable PSC violations are also attested in other sign languages (as the examples in (24) and (25) seem to suggest).

7. Conclusion

Our analysis of data extracted from the Corpus NGT reveals that (syndetic and asyndetic) coordination in NGT may exhibit violations of the well-established Parallel Structure Constraint, that is, we encountered a number of examples in which the word order differs across the conjuncts. Such asymmetries are of interest, as comparable structures are judged as highly marked or even ungrammatical by speakers of, for example, Dutch and German. Also, this type of asymmetric coordination has not previously been described for another sign language.

In order to account for this typologically unusual pattern, we assumed that topic and focus projections within the left periphery can be asymmetrically accessed in coordinated structures in NGT, leading to a PSC violation. We further hypothesized that such PSC violations may be motivated by the fact that *in situ* prosodic marking alone is considered as too weak to express the contrast across the conjuncts; hence, reordering in the second conjunct by means of fronting of a constituent – be it the object or the VP – yields the desired strength of marking. The fact that contrastively focused constituents appear in an *ex situ* position is a well-documented tendency across languages. What is special in NGT is that this strategy applies asymmetrically across conjuncts in coordinated structures. This suggests that the word order of NGT is highly determined by discourse-configurational principles, rather than by ordering principles that are especially required for the assignment of prosodic accents.

What is the status of the PSC then? The fact that it can be violated reveals that it is not a universal principle but rather a strong tendency that regulates the structure of conjuncts in genuine coordinations. This is not fully unexpected given that the PSC consists of a number of conditions that guarantee parallel structures in coordinations. The fact that a language does not succumb to all of them is perhaps not surprising. Further research will have to show whether exceptions to the PSC may be attested in a yet larger array of signed and spoken languages.

Notation conventions

As is common practice in the sign linguistics literature, signs are glossed in English SMALL CAPS; these glosses do not provide any information about the phonological form of signs. A period is used when two words are necessary to gloss a single sign (e.g., IN.LOVE). Note that in examples cited from the literature, we keep the original notation convention, which often uses a hyphen instead of a period (e.g., TAKE-A-PLANE). Further conventions:

- The gloss INDEX/IX refers to a pointing sign (usually executed with extended index finger), which may fulfill a pronominal (as in (19)) or locative (as in (20)) function.
- POSS is a possessive pronoun.
- Subscripts on INDEX/IX, POSS, and certain verbs (e.g., GIVE) refer to specific locations in the signing space: ‘1’ is a location close to the signer’s body (i.e., INDEX₁ is a first-person pronoun), ‘2’ a location towards the addressee, and ‘3’ a location towards a side of the signing space (which may be further divided into ‘3a’ for right side and ‘3b’ for left side).
- Letters separated by hyphens (e.g., H-A-V-O) represent fingerspelling using the one-handed manual alphabet of NGT.
- The gloss ‘++’ signals reduplication; ‘^’ marks compounding (e.g., YEAR^WH5).
- A line above the glosses indicates the presence of a non-manual marker (i.e., a grammatically relevant facial expression, head or body movement); the length of the line indicates the onset and offset of a particular marker. We use the following abbreviations for non-manual markers: ‘bl’ = body lean, ‘bt’ = body turn, ‘hf’ = head forward, ‘hn’ = head nod, ‘hs’ = negative headshake, ‘re’ = raised eyebrows.

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Competing interests

The authors have no competing interests to declare.

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