Author(s): Jantunen, Tommi

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CLAUSAL COORDINATION IN FINNISH SIGN LANGUAGE

Tommi Jantunen, University of Jyväskylä, tommi.j.jantunen@jyu.fi

Author's contact information:

Tommi Jantunen
University of Jyvaskyla
Department of Languages
Sign Language Centre
P.O. Box 35
FI-40014 University of Jyvaskyla
Finland

E-mail: tommi.j.jantunen@jyu.fi

Abstract

This paper deals with the coordination of clauses in Finnish Sign Language (FinSL). Building on conversational data, the paper first shows that linking in conjunctive coordination in FinSL is primarily asyndetic, whereas in adversative and disjunctive coordination FinSL prefers syndetic linking. Secondly, the paper investigates the nonmanual prosody of coordination: nonmanual activity is shown both to mark the juncture of the coordinand clauses and to draw their contours. Finally, the paper addresses certain forms of clausal coordination in FinSL that are sign language-specific. It is suggested that the sign language-specific properties of coordination are caused both by the fact that signers can use two manual articulators in the production of sentences, and by the pervasive iconicity of sign language structure.

Key words: coordination, clause, prosody, nonmanual element, modality-difference, Finnish Sign Language

1. Introduction

This paper deals with **clausal coordination** − the linking of two (or more) clauses of the same rank (Haspelmath 2007) − in the majority sign language of Finland, Finnish Sign Language (FinSL). FinSL has approximately 3000 native users, in addition to which circa 6000-9000 people use FinSL as a second language (Takkinen et al. forthcoming). There is also a small minority sign language in Finland, Finland-Swedish Sign Language (FinSSL). FinSSL is used in the coastal areas of Finland by circa 150 people with mainly Swedish-speaking family and school backgrounds (Hoyer 2012). Historically, both FinSL and FinSSL are related to Swedish Sign

Language (SSL), which was brought to Finland in the middle of the 19th century by the founder of Finnish Deaf education, Carl Oscar Malm. Today FinSL and SSL are not mutually intelligible, but due to family background and language contacts, FinSSL and SSL users can in fact understand each other rather easily (Hoyer 2012).

Complex sentences of any kind have not been previously investigated in FinSL, in which prior syntactic work has been done on simple equative sentences (Jantunen 2007), transitive clauses (Jantunen 2008), topic-comment structures (Jantunen 2009), and clause-internal ellipsis (Jantunen 2013). However, internationally, issues relating to complex sentences in sign languages have been addressed at least since Liddell (1980), and the most recent overviews on the subject are Tang and Lau (2012) and Velupillai (2012: 339-342). A rather salient feature of the international research conducted so far on the complex sentences of sign languages is that it has focused mainly on subordinate structures, particularly on relative clauses. Explicit work on coordinate structures has been relatively marginal, a recent example being Davidson (2013) for American Sign Language (ASL) (see also, for example, Johnston & Schembri 2007 and Hodge & Johnston 2013 for Australian Sign Language, Auslan).

1.1 Theoretical background and the organization of the paper

As there has been no previous work on clausal coordination in FinSL, this paper first discusses (Section 4) the basic structure of the three most recognized types of coordinated clauses: **conjunctively** ('and'), **adversatively** ('but'), and **disjunctively** ('or') coordinated clauses (Haspelmath 2004, 2007). The prototypes of these constructions are highly **symmetric**, that is, the clauses combined are, in the standard case, both autonomous and isolated. Consequently, the main discussion on coordinate

clauses concerns the explicitness of their linkage. In traditional terms, this corresponds to answering the question whether the coordination is manifested **syndetically** (i.e. with a coordinator) or **asyndetically** (i.e. without a coordinator) (Gast & Diessel 2012).

Work on clause linkage has proposed that coordination may be considered to manifest itself also **asymmetrically**, that is, so that only one of the coordinands can stand alone as an independent unit (e.g. Bril 2010; Reintges 2010). On the level of clauses, the notion of asymmetric coordination refers, in practice, to the clause chain construction found, for instance, in the languages of Papua New Guinea, Australia, and the Americas (Velupillai 2012). In **clause chaining**, typically more than two clauses are combined without any overt syntactic marker, and typically only the last clause in the string is inflected for TMA (Velupillai 2012). However, clause chaining as an instance of asymmetric coordination is still the subject of some theoretical debate (Van Valin 2005; Bickel 2010; Foley 2010; Gast & Diessel 2012), mainly because the phenomenon can also be seen as a manifestation of **cosubordination**, an intermediate linking strategy between coordination and subordination (Van Valin & LaPolla 1997; Butler 2003; Van Valin 2005; Velupillai 2012; Gast & Diessel 2012), or even as a **complementation strategy**, an alternative way of building subordinate-like complement constructions (e.g. Dixon 2006). Due to this theoretical ambiguity, and because the present work is the first attempt to address coordination in FinSL, possible clause chains and, more generally, also other forms of asymmetric coordination will not be explicitly discussed in the present paper.

Concerning sign languages, **nonmanual prosody** − the features in signing manifested by the activity of the body, head, and the parts of the face (Sandler 2012) − has been argued to play an important role in the formation of complex sentences.

Most notably, it has been argued that nonmanual prosody marks especially the boundary between linked clauses (e.g. Tang & Lau 2012). However, the exact nature of this marking in coordination is not fully known and will be discussed for FinSL in Section 5. The discussion in this section will also address the role that nonmanual elements − the head in particular − have in marking the prosodic **contours**, the domains from the perspective of their shape, of coordinated clauses.

The present study operates on the principle that the core phenomena concerning clausal coordination in FinSL can be described and analyzed using general notions developed and employed in the analysis of spoken languages (for a slightly alternative view, see Hodge & Johnston 2013). However, sign languages are different from spoken languages in terms of their physical manifestation and this fact brings up, by necessity, certain **modality differences** between the two types of languages. Some of these will be addressed in Section 6 from the perspective of coordination in FinSL. In general, we believe that the discussion of coordinate constructions that are not detectable on the basis of research into spoken languages only adds positively to our understanding of the cross-linguistic nature of clausal coordination.

In terms of the general theoretical underpinning, the present study is tied, like previous work on FinSL syntax, to the typologically motivated **functional** framework. More specifically, the study is grounded on the principles of the Basic Linguistic Theory (Dryer 2001, 2006; Dixon 2010), which is an informal (as opposed to formal) **descriptive** framework widely used by linguists to describe and compare the grammars of individual languages. Concerning typological theory in particular, the study approaches clausal coordination from a superficially non-parametric, traditional perspective (e.g. Haspelmath 2004, 2007; Velupillai 2012). However, this is not to say that recent advances in parameter-based approaches to clause-linking have been

neglected. On the contrary, the influence of the parameter-approach on the present study is seen most clearly in the way the whole notion of clausal coordination is conceptualized: the paper assumes that clausal coordination is not a holistic and easily categorizable phenomenon, but a gradual one (Gast & Diessel 2012).

1.2 On the data and methodology

The present study uses the widest collection of annotated video material and other data so far available for FinSL. The main video material comprises circa 45 minutes of edited video recordings and includes **continuous signing** from altogether 5 native FinSL signers (2 male, 3 female; ages between 20 and 60 years). The material was recorded in a studio with multiple cameras and in a dialogue-like setting in which each signer either told the other signer a story about a cartoon (*The Snowman*, or *Frog, Where Are You?*), or told the other signer about his/her hobby or other interests (e.g. ice hockey, languages, their studies etc.) (for more details, see Jantunen et al. 2012 and Puupponen et al. 2014). All of the material has been appended with annotations for signs and with sentence-level translations in ELAN (Crasborn & Sloetjes 2008). In order to identify instances of clausal coordination, a team of researchers went through the material several times and picked out a representative selection of coordinate examples (n=50). These examples were then discussed for their grammaticality and variability with native signers. However, no systematic elicitation was conducted.

An important feature of the main video material is that numerical data on the head movements of the signers has been added to a 40 minute stretch of it. This has been achieved with the help of **computer-vision** technology, implemented in the

SLMotion software specifically developed for the purpose of analyzing the motion of different articulators in sign language videos (Karppa et. al 2014). In particular, the computer vision technology was used to calculate the yaw (the turning movements of the head), pitch (the nodding movements of the head), and roll (the tilting movements of the head) angles of the heads of the signers appearing on the video (Luzardo et al. 2013). The same technology has also been used to estimate the amount of horizontal (x-axis) and vertical (y-axis) motion of the centroids of the signers' heads.

The computer-vision based data on head movements is used to support the investigation of the prosody of coordinated clauses in FinSL (Section 5). To strengthen the analysis of nonmanual prosody even further, the computer-vision processed material has also been annotated for linguistically significant head movements by an experienced research assistant. The types of head movement identified in this task were the nod, thrust, pull, turn, and tilt together, with their reduced (cf. chin-up, chin-down) and repetitive variants (cf. nodding, headshake, tilting).

Concerning the data, two notes are in order. First, a small portion of the main video material (ca. 5 minutes) was recorded with Motion Capture (mocap) technology (Jantunen et al. 2012). However, although some examples and figures in this paper show mocap related labels and equipment, the numerical mocap data has not been exploited in the present study. Second, due to its relatively small quantity, all of the data in this paper (also the computer-vision based *SLMotion* data) has been approached qualitatively. Consequently, the present study does not include, for example, any statistical or number-based generalizations.

As stated in Section 1.1, the discussion on clausal coordination in FinSL begins in Section 4. Before that, Sections 2 and 3 introduce the notion of clausal coordination and some basics of FinSL syntax in more detail.

2. Clausal coordination from the typological perspective

2.1 The basics of clausal coordination

Haspelmath (2007: 1) defines **coordination** generally as a term that "refers to syntactic constructions in which two or more units of the same type are combined into a larger unit and still have the same semantic relations with other surrounding elements." He continues that these units − **coordinands** − may be words (e.g. verbs), phrases (e.g. noun phrases) or full clauses or sentences. In this paper, coordination is understood in the sense of Haspelmath and discussed explicitly only on the sentential level.

The three main semantically based types of coordination found in the world's languages are conjunctive ('and'; cf. the semantic notion of adding), disjunctive ('or'; cf. the semantic notion of alternation) and adversative ('but'; cf. the semantic notion of contrast) coordination (Haspelmath 2004, 2007; Velupillai 2012). These are exemplified for English in (1a), (1b) and (1c), respectively.

(1) a. [John likes Mary] and [Mary likes John].

b. [Should John stay at home] or [should he go to Mary's]?

c. [Mary went to a store] but [John stayed at home].

Some frameworks also list **causal** coordination ('for'; cf. the semantic notion of reason) as a major semantically based type of coordination (e.g. *Mary was unhappy to see that it was raining for she had no umbrella with her*). However, cross-linguistically, causal coordination is not as fixed a coordination type as the other three (Haspelmath 2004, 2007; Velupillai 2012) and it is thus not discussed in the present paper.

Formally, as introduced in Section 1, coordination may be asyndetic or syndetic (Haspelmath 2004, 2007; Velupillai 2012). In asyndetic coordination there is no overt linker and the coordinands are simply juxtaposed (cf. A B). Syndetic coordination, on the other hand, involves an overt linking device (coordinator, coordinating **conjunction**), such as the *and*, *or*, and *but* found in Example (1). Cross-linguistically, the coordinator may either precede the unit it is coordinating (e.g. A <u>and B</u>), or follow it (e.g. A <u>B and</u>). In the former case, the coordinator is labeled **prepositive** while in the latter case it is called **postpositive**. The coordinators may be free words or bound clitics.

In syndetic coordination, there may be either one (e.g. A <u>and B</u>) or two coordinators (e.g. <u>and A</u> <u>and B</u>), that is, the coordination may be either **monosyndetic** or **bisyndetic**. In monosyndetic coordination, distinguishing between prepositive and postpositive coordination may not be straightforward (i.e. is it A <u>and B</u> or <u>A and</u> B). Clisis and prosodic information are typically used as evidence (Haspelmath 2004).

More than two units can also be coordinated and this is referred to as **multiple coordination**. In multiple coordination, many languages allow coordinator omission, but often the last coordinator has to be expressed. Overtly expressing the coordinator in other cases may indicate emphasis or be otherwise overtly marked (Haspelmath 2004; Velupillai 2012).

Clausal coordination often involves ellipsis. A typical example of ellipsis is **zero anaphora,** in which the referent mentioned in the first clause is referred back to by means of zero in the second clause. Languages differ in the degree to which they allow zero anaphora. In English, for example, the phenomenon is restricted in such a way that it is possible to say *The man came in and saw the woman* but not *The man came in and the woman saw* (i.e. English has an S/A pivot constraint). In Dyirbal, however, the latter sentence is accepted but not the former (i.e. Dyirbal has an S/P pivot) (Dixon 1994). On the other hand, in Mandarin Chinese, it is possible to use both types of sentences (i.e. there is no pivot constraint), as the primary recovery method of the unexpressed argument in Mandarin is, ultimately, world and contextual knowledge (see Huang 2000).

2.2 Remarks on clausal coordination in sign languages

According to Velupillai (2012), coordination in sign languages tends to be asyndetic, that is, the coordinated units are typically simply juxtaposed without an overt linker. However, some syndetic coordinated constructions can be found. For example, ASL has at least two lexical items (fingerspelled o-r and the sign OR-WHICH) for the expression of disjunctive coordination and, in addition to these, ASL also has a general use coordinator COORD that conveys both disjunctive and conjunctive linking (Davidson 2013) (for the notational conventions of sign language examples, see Appendix 1; unless otherwise explicitly stated, all of the examples in the paper follow these guidelines). On the other hand, in SSL, the sign PLUS (cf. Figure 2 in Section 4) can be used to coordinate units conjunctively, although in general SSL prefers asyndetic conjunctive linking. Overall, there seems to be a tendency that if a

sign language uses conjunctions, they occur most often in disjunctive and in adversative coordination. Example (2) demonstrates syndetic adversative coordination with the sign BUT in Auslan (Johnston & Schembri 2007: 213; original notation).

(2) k-i-m LIKE CAT BUT p-a-t PREFER DOG

'Kim likes cats but Pat prefers dogs.'

No properly supported claims have been made as to whether syndetic coordination in sign languages is prepositive or postpositive, or (primarily) monosyndetic or bisyndetic. However, the data found in the literature seems to speak for prepositive monosyndetic coordination.

Multiple coordination is possible also in sign languages and it is primarily asyndetic. However, according to Velupillai (2012), multiple items can also be coordinated in a syndetic fashion with the so-called **list buoy** construction (Liddell 2003). In the list buoy construction, the fingers of the non-dominant hand serve as the "numerical base" to which the index finger of the dominant hand points in between the coordinated items/events. As each of the coordinands is preceded by a numerical index, the list buoy strategy can be treated as a sign language-specific example of prepositive (bi- or) **multisyndetic** coordination (cf. <u>first A</u>, <u>second B</u>, <u>third C</u>). An example of a non-coordinatively used list buoy from FinSL is given in Figure 1.

{Figure 1 approximately here.}

An important feature of clause linking in sign languages is the use of non-manual activity, usually equated with prosody (e.g. Sandler 2012; for nonmanuality in

general, see Pfau & Quer 2010). Concerning coordination, Davidson (2013), for example, has described how items in ASL may be coordinated disjunctively and conjunctively only by shifting the body slightly for each coordinated element, and thus signing each of the coordinated items in a separate location in the signing space. On the other hand, Tang and Lau (2012) have argued that nonmanuality is used to mark especially the juncture of the coordinated clauses: according to them, the boundary between linked clauses is often the domain of an extended head nod or a body turn/position change, for instance, in Hong Kong Sign Language (HKSL) and in ASL.

In general, it has been argued that the significance of nonmanual activity/prosody is higher if manual markers of coordination are absent (Tang & Lau 2012). Interestingly, however, although an important role has been attributed to nonmanuality in clause linking in sign languages, no in-depth investigations of its role in clausal coordination exist in the literature.

3. Background on simple sentences in FinSL

3.1 Word classes

On a general level, the FinSL lexicon contains four types of signs: word-like signs, signs including gestural components (in the sense of Liddell 2003), emblems, and pantomimic gestures. Of these, the first two can be further divided into word classes while the latter two are types of gestures (Jantunen 2010). The major word classes in FinSL are **nominals** and **verbals**, defined by semantic and grammatical criteria. The adjective is not treated as an independent word class in FinSL research. Signs

denoting property are analyzed semantically and grammatically either as marginal nominals or marginal verbals (Jantunen 2010).

The typology of FinSL verbals is relevant in a discussion of clausal structure and coordination. In general, FinSL verbals are analyzed as belonging to one of three main subcategories: **Type 1, Type 2,** and **Type 3 verbals** (Jantunen 2008, 2010, 2013; see also Rissanen 1998, and Liddell 2003). Type 1 verbals consist of only a morphological component and are formationally the most fixed type of FinSL verbals. Type 2 verbals include both a morphological and a gestural component, the latter of which allows the verbals to be directed meaningfully in space in order to indicate, for example, discourse participants. Morphological and gestural components are present also in Type 3 verbals. In these verbals, the morphological component is a classifier handshape morpheme while the gestural component functions to depict mainly topographic locations.

3.2 The structure of simple sentences

FinSL (declarative) clauses with a Type 1 or Type 2 verbal predicate are organized in such a way that the most important core argument always comes before the verbal (V). With respect to **intransitive** clauses, this yields the basic clausal structure SV. For **transitive** clauses, this produces the basic clausal structures AVP and APV (Jantunen 2008).

The syntactic status and behavior of Type 3 verbals are different from those of Type 1 and 2 verbals. First, Type 3 verbals are considered to be full, well formed clauses on their own (Jantunen 2008, 2013). This analysis stems partly from the fact that these verbals include a fused classifier handshape or handshapes that can be

analyzed as nominal core arguments of the predicate (Van Valin & LaPolla 1997; Dixon & Aikhenvald 2000; Van Valin 2005). Another reason for the clausal interpretation is the fact that the meaning of these verbals is typically very clause-like, that is, it covers the whole event. Due to the semantics of classifiers, however, there is often some vagueness in the meaning of such verbals/clauses.

Second, as Type 3 verbals are inherently fully fledged clauses, they are typically involved in constructions that rank above the level of the clause; in practice, this means in FinSL the **topic-comment structure**. In these structures, Type 3 verbals/clauses are always (the final part of) the comment, expressing the main predication. Topics of topic-comment structures are clause-external, prosodically left-detached NPs whose function is to set an interpretative framework for the comment. Formationally, topics in FinSL are marked nonmanually (the eyes are widened and eyebrows are raised). The structural schema of topic-comment structures is TOP_{NP} + COM_{clause}.

Clauses with a **nominal predicate** (e.g. identifying clauses, various characterizing, locative etc. clauses) are typically formed by simply juxtaposing two NPs (Jantunen 2007, 2013). In other words, FinSL does not have a copula between the (first) non-predicating and the (second) predicating NP. Often identifications and predications about location etc. are expressed with the topic-comment structure. One practical reason for this is that this structure makes the syntactic inter-connectedness of the NPs more salient than a simple clause-internal parataxis of the elements.

In FinSL, the basic means of making a declarative sentence negative or interrogative is by adding to it a nonmanual operator. The **negative operator** in FinSL is a headshake (Rissanen 1985), the scope of which is the whole sentence (excluding the possible topic). The nonmanual negative operator can be accompanied

by manual negative signs, but there is no single manual negator in FinSL (Zeshan 2004). The **interrogative operator** in FinSL has two main forms, one for **polar** (yes/no) questions and the other for **content** (*wh*-) questions. In the main polar question marker, the eyebrows are raised and the head tilts forward. In the main content question marker, the brow is furrowed and the head tilts forward. The scope of the nonmanual interrogative operator is conditioned similarly to that of the negative operator (Rissanen 1985; Savolainen 2006). Question words are used with content questions and they can occur in various positions, but the clause-initial (after the topic) and clause-final positions are the most typical.

3.3 Clauses in discourse

The appearance of FinSL clauses and sentences in natural discourse is somewhat different from their appearance in isolated examples (Jantunen 2008). The differences lie mainly in the meaningful use of signing space, blending, and frequent ellipsis. As these phenomena are important for the understanding of FinSL examples in the following sections, they are briefly illustrated here with the following short text from *Suvi*, the Online Dictionary of FinSL (article 4, example 2):

(3) line 1: COMPUTER / ME blend:(TO-TYPE-KEYBOARD-2_{low}) /

line 2: ME blend:(TO-LOOK-AT-2_{up}-2_{down} /

line 3: polar:[BETTER $_{both_hands}$CL-C-"change-places"-2_{up}|2_{down}]) /

line 4: ME blend:(TO-PUNCH-KEYBOARD-2_{low} /

line 5: $_{both_hands}$CL-C-"change-places"-2_{up}|2_{down} /

line 6: FINE)

'I was typing with the computer. When I was reading the text I started to wonder whether the order of the two paragraphs should be changed. I typed in the command and the order changed. Now the text was fine.'

Syntactically, the text in (3) consists of six sentences or clauses, each presented on its own line. The sentence in line 1 is a topic-comment structure in which the sign COMPUTER is the topic and the subsequent SV-ordered intransitive clause is the comment. The sentence in line 2 is a structurally incomplete AV-ordered transitive clause in which the P-argument (cf. 'screen' or 'text') is not expressed lexically. The sentence in line 3 is an interrogative intransitive sentence (i.e. a polar question); it is an example of a type of intransitive structure in which the precise meaning of the fused classificatory core argument of the Type 3 verbal is inferred only from the context. The sentence in line 4 is a minimal structurally full intransitive clause with the order SV. The sentence in line 5 is also a minimal intransitive clause, this time, however, expressed by a single Type 3 verbal. The sentence in line 6 is a nominal characterizing clause with an omitted clause-initial thematic NP.

With respect to **the meaningful use of space**, the text in (3) includes two examples. The first concerns the production of the signs TO-TYPE-KEYBOARD (line 1) and TO-PUNCH-KEYBOARD (line 4) and the second concerns the production of the signs TO-LOOK-AT (line 2) and $_{\text{both_hands}}$CL-C-"change-places" (lines 3 and 5). In both cases, the signs involved are produced in iconically motivated locations, of which one (indicated with the index 2_{low}) corresponds to the assumed location of a computer keyboard (in front of the signer, low) and the other (indicated with the index 2) the assumed location of the computer screen (in front of the signer,

on the level of the eyes). These locations remain the same throughout the text, which indicates that locations of space are used as a reference-tracking device.

Concerning **blends** – the pantomimic aspects of signing whose semantic deciphering requires the mental construction of meaning (see Liddell 2003) – the text in (3) contains several examples as well. For example, it is not the clause in line 2, or any other syntactic unit (in the traditional sense) directly linked to it, which expresses the thematic information 'text or paragraphs on the computer screen'; the P-argument that could be supposed to express this meaning is omitted from the clause. Instead, the meaning is constructed mentally on the basis of both the text-initial topic 'computer' – limiting the typing process to the domain of computers and not, for example, to the domain of typewriters – and the blend in which the signer imagines and, accordingly, pantomimically creates the computer screen in front of her. Blends are also an important means of indicating and increasing textual cohesion. For example, the final nominal clause in line 6 does not need any additional lexical or morphosyntactic material to express the information that it is the 'text' or 'paragraphs' that are fine, because the continuity of the theme expressed by the clause in line 5 is made explicit by the continuity of the blend. In other words, it is the blend that ties the themes of the two clauses together.

The use of space and blending contribute positively to the construction of meaning, so that a lot of syntactically important material can be left out of FinSL sentences. For example, in (3), only two (in lines 1 and 4) of the total of six clauses can be analyzed as being syntactically full. It has been argued that this type of frequent **ellipsis** – the optional non-expression of syntactic material (McShane 2005) – is very frequent in FinSL. For example, Ala-Sippola (2012) calculates that over half of transitive clauses in her data were produced elliptically without their S/A argument.

According to Jantunen (2013), FinSL tends to elide especially the thematic nominal elements, and this is the case also in (3). The frequent omission of thematic elements has been used as evidence for the interpretation that FinSL is inherently a discourse-oriented language (Jantunen 2013). In such languages, ellipsis ultimately serves to add discourse coherence (McShane 2005).

Concerning the elliptical process of zero anaphora, introduced in Section 2.1, FinSL behaves similarly to Mandarin. In other words, FinSL has no S/A or S/P pivot that could be referred to in the discussion of clausal coordination (Jantunen 2013).

4. Coordinating clauses in FinSL

4.1 Conjunctive, adversative, and disjunctive coordination

The data from FinSL (see Section 1.2) shows that, like other sign languages researched for coordination (see Section 2.2), also FinSL can conjoin clauses by simply signing them one after the other. Let us begin by considering Examples (4)-(6).

(4) BOY LOOK-AT ' REALLY NOTIFY DOG PALM-UP / PALM-DOWN
blend:([SEARCH:durative] ' [DOG HELP SEARCH STUDY])
'The boy looked at the jar and then turned to the dog like "what now". Well, the boy looked for the frog intensively and the dog helped him in the search.'

(cfinsl2013-005-05, signer 2, coo-2)

(5) [HOME+GO] ' [INDEX SNOWMAN GO]

'They went home and the snowman left.'

(cfinsl2013-005-05, signer 1, coo-7)

(6) [BE-PRESENT HELSINKI] ' [RETURN RECENTLY]

'We were there in Helsinki and came back only recently.'

(mocap data 2, signer 1, example 21)

The sentences marked in square brackets in (4), (5), and (6) all represent conjunctive coordination of two FinSL clauses (of which at least one has always undergone ellipsis of a thematic element; the sentence in 4 also involves the blending of the signer into the boy). None of the examples involve any overt linking device in between the clauses and, according to the data and the intuitions of native informants, this is indeed the most typical way to express conjunctive coordination in FinSL. What is always present in the construction is the prosodic break between the clauses. In (4)-(6), this break manifests most notably as a change in the head and body position (see Section 5 for more discussion).

In FinSL – as, for example, in ASL and in SSL (see Section 2.2) – it is possible to express conjunctive coordination also with a syndetic strategy. In such cases, the primary coordinators are the sign ALSO and (as in SSL) the sign PLUS, both used in between the coordinated clauses (see Figure 2). One should note, however, that in conjunctive coordination the syndetic strategy is always a marked option. This is reflected also by the fact that the signs ALSO and PLUS have other, non-coordinative functions in FinSL (cf. the meaning 'too' of the sign ALSO; the sign PLUS, on the other hand, is used primarily in mathematical settings).

{Figure 2 approximately here}

It should be noted that in FinSL there is a sign AND that can be inserted in between clauses to mark conjunctive coordination. This sign is produced by "hooking" c-shaped hands together in the vertical dimension. However, the sign AND belongs to the register very close to Finnish and is therefore not used by native FinSL signers in everyday conversation.

Other semantically based types of coordination are also found in FinSL. The following are examples of adversative clausal coordination:

(7) ...[NICE] ' [TIRED EXHAUSTED]
(The boy was happy and he waved farewell to the snowman.) He had had fun but now he was totally exhausted.
(cfinsl2013-008-05, signer 1, coo-8)

(8) ...MAYBE STILL PRACTICE ICE-HOCKEY SURE INDEX ' **BUT** NEVERTHELESS FAVOR DECREASE
'...people still practice ice hockey but its popularity has diminished.'
(cfinsl2013-008-06, signer 1, coo-4)

(9) HELP YES ' **BUT** NOW INDEX NO-MORE ZERO
'It helped at the time but now I don't have an interpreter with me anymore.'
(cfinsl2013-008-06, signer 1, coo-6)

In (7), two characterizing clauses are coordinated adversatively without an overt linker and with a break in prosody between the clauses, just like in conjunctive

coordination (for more, see Section 5). In (8) and (9), in addition to a break in prosody, there is also a linking sign BUT between the clauses (see Figure 2). On the basis of the present data and native intuitions, the use of this sign is very common in adversative coordination in FinSL, and it can also be inserted at the clausal juncture of the example in (7). Consequently, the non-existence of the sign BUT in Example (7) can be treated as an instance of coordinator ellipsis (McShane 2005). Overall, the presence of the sign BUT makes distinguishing between conjunctive and adversative coordination easier as it reduces the cognitive load in deciphering the existence of the semantic opposition only on the basis of the compositional meanings (and the prosody; see Section 5) of the clauses. The sign BUT also helps the addressee to identify the clause boundary in longer sentences.

Disjunctive clausal coordination is exemplified in (10) and (11):

(10) ...ME SELF GROW-UP ALREADY ' **OR** CULTURE CLIMATE CHANGE...

'(I don't know if it is) me who has grown up or if the cultural atmosphere has changed...

(cfinsl2013-008-06, signer 1, coo-2)

(11) _____polar_____

h1: SPEAK **OR** PALM-UP

h2: READ

You speak it or read it?

(mocap data 1, signer 2, example 5)

As seen from (10) and (11), disjunctive coordination in FinSL employs the sign OR in between the coordinated clauses (see Figure 2). Prosodically, as described by Davidson (2013) for ASL (see Section 2.2), the disjunctive linkage in FinSL is typically marked also with an emphatic change in the head or upper torso position in between the two clauses (see Section 5). In (11), the distinction between the two coordinands is further strengthened by the fact that the two clauses are articulated with different hands.

Like, for example, in ASL (Davidson 2013), it is possible to express disjunctive coordination asyndetically also in FinSL with distinct side-to-side head and body leans. However, in practice this requires almost exaggerating the change in the head/body position in between the two clauses. Consequently, in FinSL, asyndetic linking in disjunctive coordination is deemed by informants to be very marked.

On the basis of the data analyzed, we may conclude that – conforming to the general tendency of sign languages (see Section 2.2) – linking in conjunctive coordination in FinSL is primarily asyndetic, whereas in adversative and in disjunctive coordination FinSL prefers syndetic linking. Concerning the asyndetic linking in conjunctive coordination, the question then arises of how one formally distinguishes two independently produced clauses from genuine conjunctive coordination. There can be no definite answer to this, and one has to acknowledge that conjunctive coordination in FinSL is always ambiguous in this sense. However, some cues are provided by the prosody, especially in terms of the signing speed and pausing. If the signing speed is relatively fast (as in all of the examples in this section), then the two clauses are very likely to form a single sentence. In contrast, if there is a noticeable pause between the clauses (which is not the case in the examples in this section), then the two clauses are more likely to be independent and isolated

units. Moreover, continuous blending over the conjoined clauses (as in 4) may be taken to be a further indicator of the coordinative reading.

Some diagnostics can be used to test the status of a construction as a conjunctively coordinated sentence. One test is to convert the original declarative sentence into a negative one (see Tang & Lau 2012). As was stated in Section 3.3, negative sentences in FinSL are constructed with the nonmanual negative operator (headshake), whose scope always lasts to the end of the sentence. If, then, one wishes to convert a proposition 'yes A and yes B' into a negative 'no A and no B', a negative operator must be applied to the first clause and it should apply *continuously* to the end of the second clause. According to the informants, this holds true for the sentences in (4)-(6). However, it must be noted that producing textual sentences in isolation and altering their structure this way is considered by informants to be odd. Two reasons for this are the ellipsis of thematic elements and blending, which together make the sentences heavily context dependent.

4.2 Features of syndetic coordination

When clausal coordination is expressed syndetically (i.e. with the help of signs such as ALSO, PLUS, BUT, or OR), the coordinators are positioned between the two coordinand clauses. However, the question of whether the coordinands are more linked to the first (i.e. <u>A and</u> B) or to the second clause (i.e. A <u>and B</u>) – that is, whether the coordination is postpositive or prepositive – cannot be easily answered. At first sight, it appears that both options are possible: for example, a not uncommon situation is that the signer uses the clause boundary as the chance to have a short hesitation break which, in turn, may either precede or follow the coordinator sign. In

such cases, which of the coordinands the coordinator belongs to ultimately depends on the context.

However, the distribution of eye blinks can be used as evidence that, in general, coordinators are more linked to the latter of the two coordinands, that is, that the coordination in FinSL is more prepositive than postpositive (i.e. A and B). Eye blinks are generally acknowledged to be prosodic markers of constituent boundaries (e.g. Wilbur 2000; Pfau & Quer 2010), and this has been attested also for FinSL (Jantunen 2007). In coordinated clauses, eye blinks – if present – tend to occur before any coordinator sign, that is, right after the end of the preceding clause. That this is the fact is acknowledged in the annotation of all the examples in the present paper (see also Figure 4 in Section 5).

The signs ALSO and BUT can also be found at the beginning of sentences/clauses. This use of the signs should not be confused with the prepositive type of "and A B" coordination. Rather, in such cases, these signs function as **turn-initial utterance particles** that may connect together bits of discourse over long distances (Hakulinen et al. 2004). This use of the sign BUT is demonstrated in (12).

(12) BUT TRAINING OWN WRESTLE ALWAYS ME SELF GO

'But to my wrestling training I always go alone.'

(cfinsl2013-008-06, signer 1)

The sign OR can also occur sentence/clause-initially. However, in such cases there is a semantic restriction that the sentence must be in the interrogative. The use of the sign PLUS at the beginning of sentences is highly marked.

In general, syndetic coordination, when used, is heavily monosyndetic (see Section 2.2). In fact, no traditional forms of bi- or multisyndetic coordination seem to exist in FinSL (cf., however, the list buoy construction introduced in Section 2.2, and the following discussion).

4.3 Multiple coordination

In FinSL, multiple clausal coordination is primarily asyndetic. Even the final coordinated clause is linked to the list asyndetically, contrary to the typical cross-linguistic strategy (Velupillai 2012). Examples in the data of the multiple conjunctive coordination of FinSL clauses are given in (13)-(14).

(13) h1: CL-A-"climbing-right-paw"-2 ' CL-V-"jump"-2 ' ESCAPE
h2: CL-A-"climbing-left-paw"-2 CL-S-"edge"-2 ESCAPE
'Gently the frog climbed up the wall, (the frog) jumped down from the edge of the jar, and (the frog) escaped.
(cfinsl2013-008-05, signer 2, coo-4)

(14) GO-FORWARD-1-2 ' CL-A-"open door"-2 ' STUDY HOW CLOTHES
'(the boy and the snowman) went on, (they) opened the closet door, and (they) studied what kinds of clothes there were.
(cfinsl2013-005-05, signer 1, coo-5)

However, as was the case with bi-coordinand conjunctive coordination, also multiple conjunctive coordination can be expressed with a syndetic strategy. In such cases the primary coordinators are, again, the signs ALSO and PLUS. The coordinator

appears before the final clause, as is the cross-linguistic tendency. Each of the coordinated items typically forms an independent prosodic unit, the possible coordinand being, on the basis of the distribution of eye blinks, for example, part of the final item.

In multiple adversative and disjunctive coordination, the syndetic strategy with the signs BUT and OR is preferred. The location of these signs in the coordinate string is determined by what the signer wishes to say; that is, they can occur on any boundary between the coordinated clauses.

No instances of the list buoy construction, introduced in Section 2.2 as a strategy to express multiple coordination, were found in the data. However, according to the native FinSL informants, the list buoy can be used to conjunctively coordinate (typically) multiple units such as clauses also in FinSL (see also Section 6).

5 Prosody of clausal coordination in FinSL

Section 4 described how there is a prosodic break in between the coordinated clauses. However, it was implicitly stated that this prosodic break is different in different types of coordination. This section discusses these differences in more detail.

5.1 Disjunctive and adversative coordination

Let us begin by briefly looking at disjunctive coordination. In general, as stated in Section 4, disjunctive coordination in FinSL is strongly syndetic, that is, FinSL employs the sign OR in between the coordinated clauses. In addition, the disjunctive linkage in FinSL is marked with an emphatic change in the upper-body position in

between the two clauses. This change is demonstrated in Figure 3, with video frames showing the clausal juncture of Example (11) in Section 4.1.

{Figure 3 approximately here}

Figure 3 shows how the signer swings her upper body from right to left during the production of the coordinator OR to further mark the semantic contrast between the two disjunctively coordinated clauses (as stated in Section 4.1, the two clauses are separated in the example also by the fact that they are articulated with different hands). The figure also shows how the signer pushes her head forward during the sentence. However, although this head thrust undoubtedly makes the contrast and prosodic break between the clauses even more emphatic, it is not in itself a property of coordination. Instead, together with the raising of the eyebrows it forms the nonmanual polar interrogative operator in FinSL (see Section 3.2; see also Puupponen et al. submitted). Note also that the two positions of space in which the upper body of the signer is located in the example do not have any meaning; in other words, the space is not used here for any reference-tracking purpose (see Section 3.3).

The data shows that, in disjunctive coordination, prosody manifested by upper-body behavior is used *together* with the manual coordinator sign (see Davidson 2013 for ASL). This is not what we typically see in the instances of unmarked adversative coordination with the coordinator sign BUT. Consider the frames in Figure 4, demonstrating the clausal juncture of Example (9) in Section 4.1.

{Figure 4 approximately here}

As seen in Figure 4, there is no noticeable upper-body movement that functions to separate or mark the boundary of the two coordinated clauses. Instead, in the example, the prosodic break is manifested almost entirely by the first clause-final eye blink alone. However, the data shows that the sign BUT *can* be accompanied with a head movement. If present, this movement is typically either a head pull or a head thrust, that is, either a backwards or forwards directed movement of the head (for head movements in FinSL, see Puupponen et al. submitted).

Tang and Lau (2012) have argued that in cases where manual markers of coordination are absent, the role of nonmanual prosody is increased (see Section 2.2). The present data on disjunctive and adversative coordination – both of which can also be expressed asyndetically in FinSL – supports this argument. When disjunctive coordination, it was stated in Section 4.1, is expressed without the sign OR, the side-to-side body movement in between the clauses becomes nearly exaggerated (and such an asyndetic form of disjunctive coordination is, consequently, very marked). A similar effect is also seen in adversative coordination in which the coordinator BUT has been omitted. Consider the example in Figure 5.

{Figure 5 approximately here}

The two frames in Figure 5 show the clausal juncture of Example (7) in Section 4.1. In the example, the adversative coordinator BUT is not present and we can observe more nonmanual activity than we typically find in coordination manifested syndetically with the sign BUT (e.g. in Figure 4). In particular, in Figure 5, right after the clausal juncture, the upper body of the signer leans to the left and, simultaneously, the head is thrust forward. Consequently, the whole structure resembles very much

asyndetic forms of disjunctive or conjunctive coordination, the semantics together with the prosody being the only way to determine the type of coordination.

5.2 Conjunctive coordination

The previous section (5.1) showed that asyndetic (marked) forms of disjunctive and adversative coordination in FinSL typically employ changes in the positions and movements of the whole upper body to mark the boundary of the two coordinated clauses. In general, the same strategy can also be used in conjunctive coordination, which in the unmarked case is asyndetic in FinSL (see Secion 4.1). However, in conjunctive coordination the data indicates that the head has a more decisive role than the torso in marking the prosodic break. In other words, in conjunctive coordination it is not so much changes in the positions of the whole body that mark the prosodic break between the coordinated clauses as changes in the positions of the head (the head, of course, is part of the upper body, which makes distinguishing between head and whole body behavior sometimes very difficult). Moreover, the behavior of the head also contributes to drawing the contours of coordinand clauses, that is, in joining the units forming the clauses prosodically together.

To understand the prosodic role of the head in conjunctive clausal coordination, let us look at the data presented in Figure 6. Basically, Figure 6 is a screenshot from the ELAN annotation tool used in the annotation of the present data and it presents Example (4) in Section 4.1. However, in addition to the glosses and sentence-level translation, the screenshot also includes visualized head movement data produced with *SLMotion* (see Section 1.2). In Figure 6, the head movement data is represented in four panels. The uppermost panel shows the amount of **horizontal** (x-axis) motion

of the centroid of the signer's head, tracked from the video. The three panels below that show the motion of the head with respect to the **yaw** angles(the turning movements of the head), **pitch** angles (the nodding movements of the head), and **roll** angles (the tilting movements of the head), respectively. The vertical bar (with the croshair) marks the area of the clausal juncture.

{Figure 6 approximately here}

In general, the head movement data in Figure 6 demonstrates how, in the production of the example, the head moves a lot. This is partly because of the blend of the signer into the boy during the sentence. However, from the point of view of coordination, the behavior of the head in the dimension captured by the roll descriptor (the lowest panel) is more systematic than in the others. In practice, the roll value describes the sideways, tilting-like movements of the head. In Figure 6 we see that the clausal juncture is associated with the lowest roll value, the descriptor thus forming a valley-shape over the juncture. In practice, in terms of the roll angle, the data tells us that the head position at the moment of the juncture is close to neutral whereas during the production of both coordinand clauses the head is tilted to the signer's right (indicated by the increasing roll value in the positive direction). The descriptor in the uppermost panel, showing the sideways movement of the centroid of the head (along the x-axis), agrees with this analysis.

The tendency of particularly sideways tilt-like movements of the head to draw the contours of the clauses in conjunctive coordination is a characteristic of all the FinSL data analyzed (nonmanual prosody is known to tie syntactic units together, and hence to add cohesion, also more generally; e.g. Pfau & Quer 2010). To strengthen

this point further, Figure 7 presents another example of the phenomenon; Figure 7 presents Example (5) in Section 4.1. Note that this time the figure shows only the yaw, pitch, and roll desciptors (cf. Figure 6).

{Figure 7 approximately here}

In Figure 7, the roll angle descriptor (bottom panel) again captures the fact that the head tilts to the right and returns to its neutral position during the production of both coordinands, and that the clausal juncture is associated with the moment the first tilt-like movement ends and the second one begins. Moreover, this example shows that the clausal juncture is associated also with a nod-like movement of the head (the middle panel showing the pitch angle descriptor), and that this nod-like movement also participates in drawing the contour of the clauses. Here the nod-like movement functions to emphasize the forward-directed manual movement of the verbal predicate HOME+GO comprising the first clause (cf. Puupponen et al. submitted). In general, however, unlike what has been argued to be the case with ASL and HKSL (e.g. Tang & Lau; see Section 2.2), the present FinSL data with its human-made annotations does not normally include head nods in inter-sentence clausal junctures (in any of the three semantic types of coordination). Instead, nods tend to occur at sentence boundaries.

6. Sign language-specific forms of clausal coordination

As was mentioned in Section 1.1, sign languages are different from spoken languages in terms of their physical manifestation, and this is a cause for various modality

differences between the two types of languages. In terms of coordination, Section 2.2 already presented the list buoy construction as one type of sign language-specific form of prepositive and multisyndetic coordination strategy (see Velupillai 2012), and Section 4.3 stated that the list buoy structure can be used as a mechanism to coordinate multiple clauses also in FinSL. On the strength of the present FinSL data, this section now presents two more structural means by which sign languages can express clausal coordination. In general, we consider these means to be sign language-specific in the sense that they employ natural characteristics of sign languages that are either not available at all in spoken languages or are only marginally used in spoken languages. In practice, the strategies are enabled by the fact that signers can use two manual articulators in the production of sentences, and by the pervasive iconicity of sign language structure.

The fact that sign languages have two (primary) manual articulators (i.e. the two hands) and an array of (secondary) nonmanual articulators (e.g. facial elements, the head, and the torso) makes it possible to coordinate units **simultaneously**. Consider the boldfaced parts of the following examples:

(15) _____"the signer looks around in a puzzled manner"

h1: **CL-V_{bent}-"sit"-2_{right}**

h2: **CL-V_{bent}-"sit"-2_{left}**

i. 'The boy and the dog sit and look around in a puzzled manner.'

ii. 'The boy sits and looks around in a puzzled manner *and* the dog sits and looks around in a puzzled manner'

(cfinsl2013-008-05, signer 2, coo-10)

(16) h1: CL-S-"grab-branch"-2 **LOOK-FOR** CL-S-"hold-on-branch"-2

h2: CL-S-"grab-branch-and-hold-on-to-it"-2 ----------

'The boy grabs the branches and looks around for the frog.'

(cfinsl2013-008-05, signer 2, coo-8)

In (15), visualized also in Figure 8, the dominant hand (h1) represents the sitting boy and the non-dominant hand (h2) represents the sitting dog. In addition to this highly iconic manual configuration, the signer has also created a mimical blend in which she with her nonmanual upper body behavior represents the activity of the boy and the dog (i.e. she looks around in a puzzled manner). As a whole, this simultaneous construction can be analyzed either as one (two-handed) Type 3 verbal or as two simultaneously produced (one-handed) Type 3 verbals. If the former analysis is preferred, the example demonstrates the simultaneous conjunctive coordination of two NP-like elements (cf. 'the boy **and** the dog'). If the latter analysis is adopted, the example demonstrates the conjunctive coordination of at least two simultaneously produced clauses (cf. 'The boy sits and looks around in a puzzled manner **and** the dog sits and looks around in a puzzled manner'). No clear-cut solution to this analytical ambiguity is available.

{Figure 8 approximately here}

The sentence in (16) is a slightly different example of simultaneous conjunctive coordination that makes use of the existence of two hands. In this example, the signer first produces a two-handed Type 3 verbal/clause with the overall meaning 'the boy holds on to the branch of the tree'. After the completion of the sign, the non-dominant

hand is retained in the configuration and position of this Type 3 verbal/clause as a so-called **fragment buoy** while the dominant hand continues to produce the Type 1 verbal LOOK-FOR, corresponding to an elliptical transitive clause ('the boy looks for the dog'). After this verbal/clause is produced, the dominant hand returns to the initial configuration and position of the first Type 3 verbal, still present in the non-dominant hand. In terms of temporality, the production of the second clause overlaps with the retained and fragmented production of the first clause. Analytically, the fragment buoy in the non-dominant hand functions to add cohesion to the complex sentence during the production of the second clause; that is, it can be treated as a formal marker that signals the interconnectedness of the two clauses. Similar examples can also be found elsewhere in the data, as demonstrated in (17; see Figure 9):

(17) h1: CL-V-"animate-object-flies"-2_{up} ' LOOK-AROUND

h2: CL-B-"ground"-2_{down} ----------

'They flew above the ground and looked down.'

(cfinsl2013-005-05, signer 1, coo-6)

{Figure 9 approximately here}

The second sign language-specific structural means to coordinate units found in the FinSL data concerns the modification of the movement parameter of verbal signs. Most typically, the movement parameter is modified in FinSL verbals to iconically display information related to the event structure, such as the perfective aspect. However, in (18), the modification is best analyzed as a means to isomorphically code the temporal sequentiality of the two events ('the lamp goes on **and** the lamp goes

off'). In practice, the conjoining of the events is done by first opening the hand and then almost immediately closing it again. Figure 10 shows the modification with frames captured from the data.

(18) CL-Ax-"plays with the light switch"-4u **LAMP-ON/OFF**
'The snowman turns the switch and is amazed to see how the light goes first on and then off.'
(cfinsl2013-008-05, signer 1, coo-5)

{Figure 10 approximately here}

The two sign language-specific clausal coordination strategies described above (the simultaneous production of clauses, and the iconically grounded modification of the movement parameter of signs) are perhaps not the most typical ways in which FinSL (or other sign languages) express clausal coordination. However, we take them as evidence for the view that clausal coordination is, indeed, not a fixed phenomenon but rather can be seen as a gradient phenomenon (see Gast & Diessel 2012) which, ultimately, is connected to the channel in which the language is expressed.

7. Conclusion

This paper has discussed the three main types of clausal coordination (conjunctive coordination, adversative coordination, and disjunctive coordination) and their typological characteristics in FinSL. It has been shown that conjunctive coordination is primarily asyndetic, although forms of syndetic conjunctive coordination also exist

in FinSL. In adversative and disjunctive coordination, the syndetic strategy is preferred to the asyndetic strategy, although it is a marked option in both cases. Moreover, the paper has shown that syndetic coordination in FinSL (when used) is, in principle, both prepositive and heavily monosyndetic. Multiple coordination of clauses has also been shown to be possible.

Concerning the nonmanual prosody of clausal coordination, the paper has discussed the various ways of marking the juncture of coordinated clauses and provided evidence for the general argument that the role of nonmanual behavior increases in the absence of manual markers of coordination. Moreover, on the basis of, for example, computer-vision analysis of the head movements of the signer appearing on the videos, the paper has suggested that nonmanual activity not only marks the junctures of the coordinated clauses but also contributes to drawing their prosodic contours. It is here suggested that this direct prosodic marking of the shapes of syntactic constituents is an important feature of sign languages, to be taken into account in future work.

When situated in the wider cross-linguistic context, the results of the present paper indicate that, in terms of clausal coordination, FinSL behaves fairly similarly to the world's spoken languages, which typically form the basis of all of the typological work in linguistics. However, this is not to say that the visual-gestural channel of FinSL – and of all sign languages – does not affect the manifestation of clausal coordination. Some of these modality effects have also been addressed in this paper; they include the simultaneous production of clauses as well as the iconic modification of predicate verbals. In the end, it has been suggested that these sign language-specific "effects" are caused most significantly by the existence of the "other" hand

(together with other articulators) and by the pervasive iconicity of sign language structure.

To conclude, future research will continue to investigate complex sentences in FinSL. The next logical step is to focus on embedded structures, including instances of asymmetric coordination, which is not dealt with in the present paper. A major sub-goal in this work concerns the creation of a representative video-based research corpus of FinSL. Only through such a corpus will it be possible to make the shift from qualitative observations to true usage- and frequency-based generalizations in the investigation of FinSL syntax. Happily, this work has begun and is already well under way.

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Appendix 1.

The coding and transcription conventions used in this paper.

Note that examples cited from the literature are represented in their original form and the conventions listed here do not necessarily apply to them.

Manual behavior in signs

WOMAN	Signs are referred to, according to the standard convention in sign language research, as glosses, which are to be understood as rough translations of the signs' core meaning. Notation in capitals.
LOOK-AT	A hyphen is used when a single sign is glossed with more than one (English) word.
HOME+GO	Consecutive signs in compound-like structures are indicated by plus signs.
HOUSE-2	A gloss followed by a hyphenated number or numbers identifies a directional sign (i.e, that the sign is either directed to a certain location or produced at a certain location). Spatial locations are drawn from Figure 11, below, from Rissanen (1985: 18). The numbers may be followed by words (e.g., *up* and *down*) further specifying the location that is pointed at.

{Figure 11 approximately here}

INDEX-3 A non-pronoun pointing made with the index finger. As with other signs, the number indicates the relative point the sign is directed toward (see Figure 11).

CL-G- A *CL-"letter"* notation at the beginning of the gloss indicates that the corresponding sign contains a classifier handshape. Handshape symbols are based on Rissanen (1985: 68–69).

-"come-to-a-stop"-4-1 The end part of the gloss in Type 3 signs describing the sign's movement. The written sequence in between the quotation marks describes the overall manner of the movement. Numbers indicate the change in the location of the hand in the signing space (see Figure 11).

"let-it-be" Gloss-like words written in regular letters in between quotation marks represent gestures.

n-e-n Letters separated by hyphens refer to finger-spelled words in which every letter is expressed.

h1/h2 When needed, the activity of the two hands is represented on separate lines. H1 stands for the dominant hand (typically the right hand of a right handed signer) and h2 for the non-dominant hand (typically the left hand of a right handed signer).

Non-manual/temporal behavior in signing

/ The symbol of pause.

’ A change in non-manual behavior without a pause (e.g., when signaling a phrase or clause boundary).

The scope of layered non-manuals (e.g., operators, mimic behavior) is typically signaled with a line above the glossing. Alternatively, this behavior may be coded together with the symbols below.

Symbols and abbreviations relating to the analysis

[OWN WORK-PLACE] Syntactic constituents (phrases, clauses etc.) may be indicated within square brackets. The initial bracket may be preceded by additional grammatical information (for some of which, see below).

V Verbal sign in predicate function.

A/S	A unit referring to the single (S) or more active (A) participant (prototypically the agent) in a situation encoded by an intransitive or transitive verbal, respectively.
P	A unit referring to the more passive participant in the situation encoded by a transitive verbal (prototypically the patient).
NP	Syntactic phrase in which the head is a nominal.
TOP	Topic.
COM	Comment (clause).

FIGURES

Figure 1. A FinSL list buoy meaning 'secondly'.

Figure 2. FinSL signs (from left to right) ALSO, PLUS, BUT, and OR.

Figure 3. The articulation of FinSL signs SPEAK (left), OR (middle), and READ (right) forming the clausal juncture of Example (11) in Section 4.1.

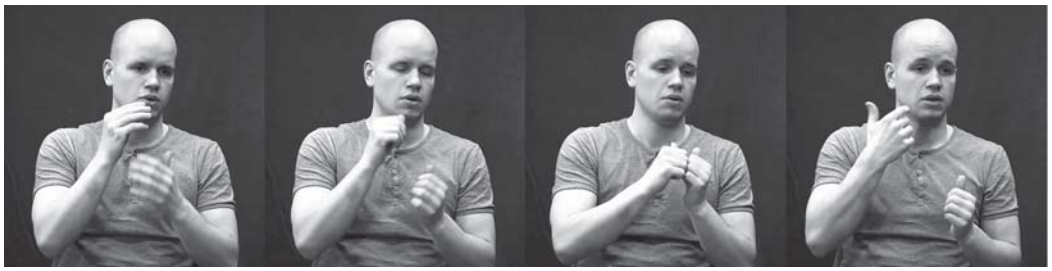

Figure 4. The articulation of the FinSL sign YES (left), eye blink and the consecutive sign BUT (the two frames in the middle, respectively), and the beginning of the sign NOW (right), all forming the clausal juncture of Example (9) in Section 4.1.

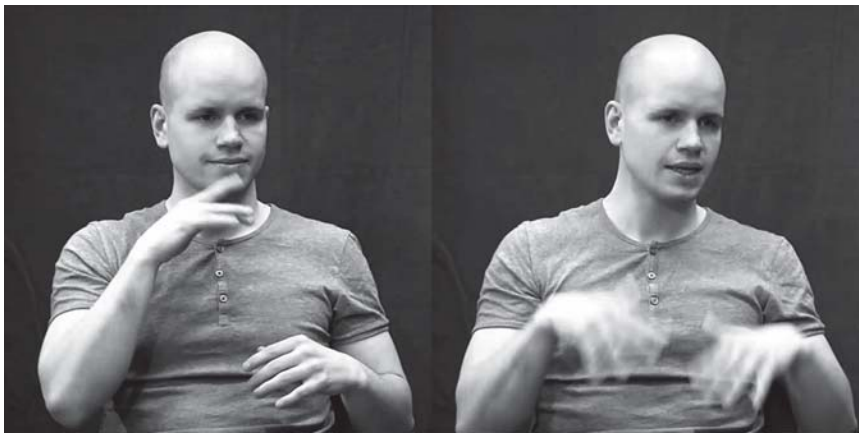

Figure 5. The articulation of the FinSL signs NICE (left) and TIRED (right) forming the clausal juncture of Example (7) in Section 4.1.

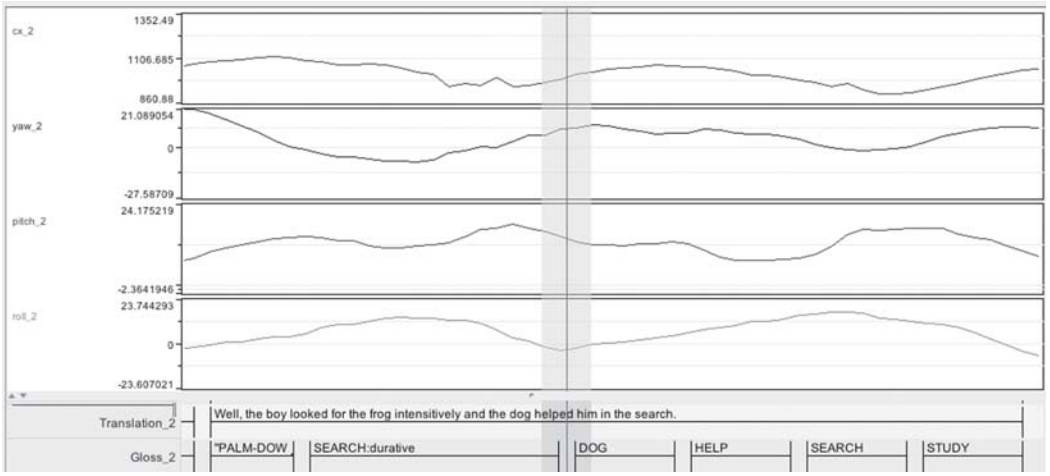

Figure 6. ELAN screenshot showing visualized head movement data for Example (4) in Section 4.1.

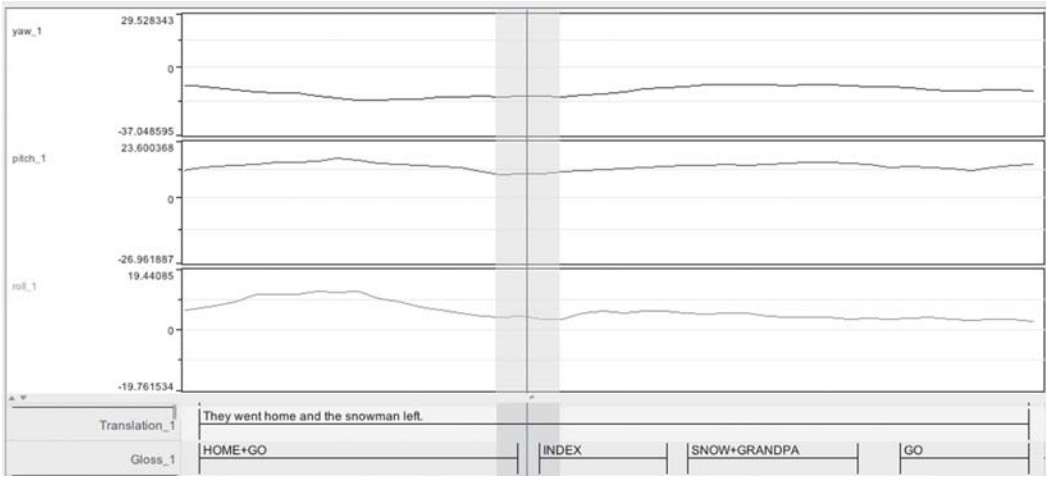

Figure 7. ELAN screenshot showing visualized head movement data for Example (5) in Section 4.1.

Figure 8. A frame from the data showing the simultaneous conjunctive construction in (15).

Figure 9. A frame from the data showing the production of the final clause in (17).

The non-dominant hand is retained in the same position as in the first clause.

Figure 10. An example of the modification of the movement parameter of a verbal resulting in two conjunctively coordinated clauses.

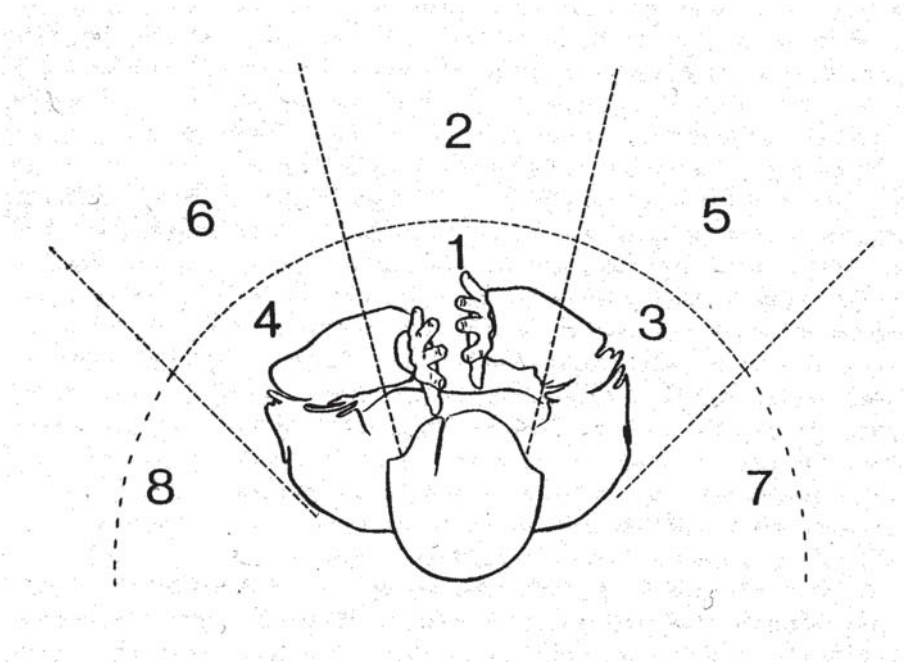

Figure 11. Locations in signing space (from Rissanen 1985: 18).