Jordanian sign language : aspects of grammar from a cross-linguistic perspective
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Chapter 6: Simultaneous use of the two hands

6.1 Introduction

Sign languages have unique possibilities with regards to simultaneity because they make use of more than one articulator. Whereas in spoken languages simultaneity is limited by the fact that people have only one vocal tract with which to produce speech, sign languages use two hands as well as facial expressions, mouthings, body postures etc. Thus, sign languages can make use of manual simultaneity, the two hands producing different signs simultaneously, as well as manual/non-manual simultaneity, as in simultaneous signing and mouthing. The focus of this chapter will be on manual simultaneity because this is the area in which LIU proves to be interesting cross-linguistically.

This chapter provides an overview of manual simultaneity in narrative discourse in LIU. Forms and functions of manual simultaneity from the literature are discussed (Section 6.3) and simultaneous constructions in LIU are compared with those in other sign languages. Based on examples from LIU I will propose a strict phonological rule for manual simultaneity and discuss its possible universality (Section 6.4). It will be shown that this rule explains the simultaneity effects in LIU better than other functional explanations that have been suggested in the literature. Different syntactic and pragmatic functions of simultaneity in LIU will be discussed in detail. In Section 6.5 I will look at simultaneity in classifier constructions, and in Section 6.6 the term ‘buoys’ will be discussed in relation to simultaneous constructions in LIU. Manual simultaneity in LIU often interacts with dominance reversal, a grammatical phenomenon whereby the hand that is usually non-dominant becomes the primary signing hand for a string of signs. Because of this interaction, the different functions of dominance reversal and the environments in which it takes place will be discussed in Section 6.7. Constructions which illustrate this interaction between simultaneity and dominance reversal will be discussed in Section 6.8. Section 6.9 will summarise similarities and differences between LIU and other sign languages, concluding that certain simultaneous constructions in LIU...
LIU appear to violate constraints that have been proposed for manual simultaneity.

6.2 Data and methodology

The data used for this chapter is taken from five signers videotaped at the Holy Land Institute for the Deaf. Each signer told a different story of their own choice. Four of the stories are informal stories told by Deaf students aged between seventeen and twenty years old. All of these students learned LIU at a very young age, having a Deaf parent and/or Deaf brothers and sisters. The content of these stories varies from students’ own experiences to a ghost story and the re-telling of a movie seen on television. Three of the stories were told to another Deaf student who sat next to the video camera. The fourth story was told to the author of this chapter, who is a fluent signer of LIU. For two of the students their right hand is their dominant hand, the other two are left-handed. One of the left-handed signers is particularly ambidextrous in his signing and uses dominance reversal much more often than any of the other signers.

The fifth story was told by a 36-year old Deaf signer, who is a staff member at the school. Although he went to residential school and learned LIU from other students at a young age, education at that time was much more oral than it is at present. The story he tells is a fragment of a biblical story that he had learned by heart. This story differs from the other stories in the way it is told. It is less casual and signed much more slowly and deliberately. Although this older signer uses some dominance reversal and also some simultaneity, these phenomena occur much less frequently than in the other stories. This difference may be due to the different style of the story. Klima and Bellugi (1979) have suggested that style may play a role in the occurrence or non-occurrence of simultaneous constructions in ASL. Similarly, Crasborn (2006) observes that simultaneity in NGT is more prominent in sign language poetry than in story-telling. These studies suggest that simultaneity is most common in formal register or a special, creative use of language, whereas the LIU data indicates that it is particularly prominent in informal story-telling (cf. also Kyle & Woll 1985). However, it is also possible that the difference between the four stories signed by students and the more formal biblical story is less related to style than to the fact that the signer of the latter story is of an older generation that makes less use of simultaneous constructions. From my own observations, dominance reversals seem to be particularly common in younger LIU signers (students in their late teens), who have provided most of the data for this chapter. Leeson and Saeed (2004) found that native signers of Irish Sign Language (IrSL) from a Deaf family used simultaneous constructions more frequently.
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than fluent signers of IrSL who did not have Deaf family or siblings.\textsuperscript{44} Similarly, although the older LIU signer does have an older Deaf brother, the brother is not a signer. In contrast, the younger signers all had Deaf signing siblings or parents. It would seem, then, that the use of simultaneous constructions can also be a mark of fluency, but further research is needed to establish which of these factors is the most important.

The analysis presented here is based on stories because they provide the most natural data. Sign language stories, however, are difficult to analyze because of the many different articulators that can be used in a sign language and the way they jointly contribute to the meaning of the utterance. Thus, facial expression, eye gaze, head position, body lean, and the two hands may all simultaneously convey different aspects of the signers’ communication. Although all these aspects are important in the analysis of discourse, this chapter will focus on manual activity. A transcription of the other articulators will only be presented in examples if they were seen to make a crucial contribution to the analysis.

\textbf{6.3 Simultaneity in sign languages: forms and functions}

Although simultaneous constructions have been mentioned in the early sign language literature (Friedman 1975), until recently few studies on simultaneity in sign languages existed. Miller (1994) made the first attempt at a cross-linguistic overview of different simultaneous constructions, illustrating them with examples from Quebec Sign Language (\textit{Langue des SignesQuébécoise}, LSQ) and Engberg-Pedersen (1994) described some simultaneous constructions in DSL. Liddell (2003) mentions some types of simultaneous constructions in ASL, although the focus of his book is on the use of space, rather than on simultaneity. In France, Cuxac (1985, 2000) conducted research on simultaneity (cf. Sallandre 2007) but because his research is published in French, and is embedded in a different research tradition, it has received little attention internationally. Similarly, Vermeerbergen (2001) has published a paper on simultaneity in VGT written in Dutch. In 2007 the first collection of articles on simultaneity (Vermeerbergen, Leeson and Crasborn 2007a) was published.

\textsuperscript{44} In addition, Leeson and Saeed found that simultaneous constructions are used more by male Deaf signers than by female Deaf signers in IrSL. They suggest that this difference may be caused by strict segregation of the sexes in the educational system in Ireland (cf. also Leeson & Grehan 2004). No similar distinction was found in LIU, where, despite the segregation of the sexes in the Arab world, schools for the Deaf are (and always have been) mixed gender schools.
As a linguistic phenomenon, simultaneity appears to be typical of sign languages, because they have several articulators, whereas spoken languages only have one. Simultaneity does occur at some levels in spoken languages as well, for example in the simultaneous production of speech sounds and intonation. These might be compared to certain forms of manual/non-manual simultaneity in sign languages. In particular, Semitic languages such as Arabic have been analyzed as making extensive use of simultaneous constructions (Miller 1994:110).

“many spoken languages do make use of grammatically relevant simultaneous organisation of distinct elements on different representational tiers, both at the phonological and morphological levels, [but] it is only in Semitic languages such as Arabic, Hebrew […..] and so on that such simultaneous organisation reaches a level of complexity and sophistication approaching that of sign languages.”

An example of such simultaneity in Arabic was given in Chapter 3.2 where, in the framework of autosegmental phonology, the consonants of a root interact with a vowel melody to produce a lexical item. However, in my opinion it is debatable whether such constructions can truly be called simultaneous even in a Semitic language like Arabic, since the consonants and vowels are still produced sequentially. Moreover, as Miller observes, these ‘simultaneous constructions’ in Arabic are limited to the sound- or word-level, that is to phonology and morphology. In this chapter I will deal only with simultaneity above the word-level, that is, in syntactic constructions. This kind of simultaneity is not found in spoken languages, unless one takes into account gestures that people make while speaking. The way such ‘co-speech gestures’ are used is an interesting study in itself (McNeill 1992; Kendon 2004) but further discussion falls outside the scope of this chapter. Vermeerbergen and Demey (2007) show that there are many similarities between the co-occurrence of speech and co-speech gestures and simultaneous constructions in sign languages. They suggest that some constructions that have been analysed as simultaneous constructions in sign languages might, in fact, rather be constructions which involve simultaneous signing and the use of gestures, in the same way as co-speech gestures are used with speech (Liddell 2003; Crasborn 2006). Because the distinction between signs and gestures requires a study in its own right, however, I have not attempted to distinguish between them (cf. Chapter 1.3).

Different types of simultaneity in sign languages can be distinguished. Manual simultaneity occurs when a signer uses both hands to convey different information. Manual-oral simultaneity refers to the simultaneous use of the hands and the mouth, which can either produce lexical items from the spoken language or mouth gestures (Sutton-Spence
Another type of simultaneity involves the simultaneous use of the hands and some other articulator, such as eye-gaze or body-lean (Perniss 2007a). As was stated in the introduction, the focus of the present chapter is on manual simultaneity. Although descriptions of simultaneous constructions show that there are many similarities between these constructions in different, unrelated, sign languages (Liddell, Vogt-Svendsen and Bergman 2007), the classifications of different types of simultaneity and the terminology used in the literature has varied considerably. Engberg-Pedersen (1994) distinguishes between ‘central’ and ‘noncentral’ types of simultaneity. In the central type of simultaneity both hands participate in a classifier construction and express a locative relationship between two elements. Noncentral simultaneity includes all types of simultaneity not involving a locative relationship between two elements. Example (6.1) from LIU (also Figure 6.2 in Section 6.4), shows that central and noncentral simultaneity, following the definition of Engberg-Pedersen, can be combined within a single utterance. In this example, the classifiers BRIDGE and VEHICLE express a locative relationship, but the signs KNOW, STAY and WHAT on the dominant hand are not classifiers and do not have a locative relationship with the vehicle classifier on the non-dominant hand. (For a more elaborate discussion of this example, cf. Section 6.4).

(6.1) dh: CL:BRIDGE KNOW CL:BRIDGE STAY WHAT
ndh: CL:VEHICLE forward hold backward-forward hold

“The car passed under the bridge, you get it? It passed under the bridge and stayed there. What (could he do)?”

The terms ‘central’ and ‘noncentral’ simultaneity have not been very precisely defined and do not appear to me to be helpful. In the literature, however, some distinctions have been found between simultaneous constructions involving classifiers and those that do not involve classifiers. For instance, spreading of the non-dominant hand is limited to certain prosodic domains, in particular the phonological phrase, but this constraint does not apply if the non-dominant hand is interpreted as a classifier morpheme (Sandler 1999a). In this chapter I will argue that, in LIU, constructions involving classifiers and those not involving classifiers obey the same rule.

Miller focuses on “non-classifier constructions involving the simultaneous production of distinct signs” (Miller 1994:89) and distinguishes between ‘full simultaneity’ and ‘perseverations’. Full simultaneity occurs when two signs are produced simultaneously by the dominant and non-dominant hand moving independently. The two signs do
not have to begin and end at exactly the same time, as long as there is simultaneous movement on the two hands. Perseverations, on the other hand, occur when one hand holds the end-state of a sign while another sign or signs are made on the other hand. If the dominant hand holds the end-state of a sign and the non-dominant hand continues signing, a dominance reversal occurs (cf. Frishberg (1985) for an overview of dominance reversals in ASL). An example of full simultaneity (Miller 1994:101) is presented in (6.2). In this chapter, however, I will argue that no distinction needs to be made between full simultaneity and perseverations, at least in LIU, but that both are the result of the same phonological rule.

In (6.2) the dominant hand produces a classifier moving towards the signer and then away from the signer, while the non-dominant hand produces a lexical sign, which also contains movement:


“When I’m around them (i.e. ASL) signers, (my ability) increases and when I’m not around them, it decreases.”

In contrast to this example, Liddell describes simultaneous constructions in which the non-dominant (weak) hand produces signs “that are held in a stationary configuration as the strong [dominant] hand continues producing signs” and calls these ‘buoys’ because they "maintain a physical presence that helps guide the discourse as it proceeds” (Liddell 2003:223).

It would seem from these descriptions that full simultaneity is rare. In the most common type of simultaneity the two hands are involved in the production of different signs, but are not moving simultaneously (Miller 1994; Engberg-Pedersen 1994). In other words, one hand is holding a sign, or the end state of a sign, which it produced earlier, while the other hand makes a different sign. In Section 6.4 I will propose that full simultaneity, at least in LIU, is rare for phonological reasons.

Manual simultaneity may take different forms and have different functions. Vermeerbergen (2001) mentions five different constructions in VGT; these have also been found in several other sign languages:

1. the simultaneous production of two classifiers, each on a different hand, showing the locative relationship of two referents
2. the simultaneous production of a classifier on one hand and one or more signs on the other hand,
3. the perseveration of a sign on one hand while the other hand produces one or more signs (this category includes Liddell’s ‘fragment buoys’)

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Simultaneous constructions involving an index are very common in LSQ (Miller 1994) and NGT (Crasborn 2006). According to Vermeerbergen (2001) the most common types of simultaneity in VGT are those involving an index or a numeral. An index is often produced simultaneously with a referent in the discourse and localizes this referent in the signing space. Friedman (1975:954-955) comments on these structures in ASL: “[w]hen an index is made at the same time as the dominant hand articulates a verb phrase, this indicates the location of an action” and “[t]he referent of an index made simultaneously with a verb may incorporate the subject of the verb plus its location.” It is not clear, however, if and how a simultaneous construction involving an index differs semantically from similar constructions that are not simultaneous, that is where the index precedes or follows the referent. In certain cases simultaneity appears to be purely phonological. 45

When a simultaneous construction involves a numeral, “each fingertip may serve as an indexic location for a distinct discourse referent” (Miller 1994:100). The term ‘indexic location’ is used to indicate that these fingertips, when pointed at by the index of the other hand, have a function similar to that of a location in the signing space (Liddell 1990). In LIU, however, numerals can also occur in simultaneous constructions without serving as indexic locations, as is shown in Section 6.6.2. Simultaneous constructions involving perseverations can have several functions in the discourse. Vermeerbergen (2001) mentions the two hands representing two different referents; the expression of simultaneous action; topic marking whereby the topic of the discourse is held while one or more expressions relating to that topic are signed; and one hand holding the cause of an action while the other hand signs the result. According to Miller (1994) the non-dominant hand in simultaneous constructions often carries background information, whereas the dominant hand carries foreground information. In

45 Sandler (1999a) mentions cases where a two-handed symmetrical sign is followed by a pronoun. Rather than being produced sequentially, however, the dominant hand produces the index halfway through the production of the two-handed sign, whilst the non-dominant hand completes this sign. She calls this process ‘coalescence’ and states that it is a form of cliticization.
addition, he mentions that simultaneous constructions can establish contrast, for example between one person and a mass of people, and a conditional relationship between two different propositions. According to Liddell (2003) buoys help guide the discourse by pointing out what is important. The function of manual simultaneity in all these cases has to do with information structure.

Simultaneous constructions, then, can have different functions. It would seem that these functions are similar in the different sign languages for which they have been described. In the remainder of this chapter we will look at restrictions on and functions of simultaneous constructions in LIU.

6.4 Simultaneity in LIU: phonological restrictions

In LIU, perseverations can be held on either the dominant or the non-dominant hand and can have different syntactic, prosodic and discursive functions. When fragments of signs are held on the dominant hand, a reversal of dominance takes place whereby the non-dominant hand ‘becomes dominant’ and continues signing (see Frishberg (1985) for a discussion of this process in ASL). Dominance reversal does not always coincide with simultaneity, however, and may have its own functions in the discourse.

At first sight, examples of full simultaneity, that is, both hands moving independently at the same time, appear to be present in LIU. However, a closer look reveals that most of these examples do not differ much from the more commonly occurring kind of simultaneous construction (see Section 6.6 for further discussion). In fact, it will be suggested here that manual simultaneity in LIU is limited by very strict phonological criteria and that perseveration is one of the strategies used to fulfil these criteria. It is therefore not necessary to distinguish between fragment buoys or perseverations as opposed to full simultaneity.

As mentioned above, Miller (1994) suggests that in simultaneous constructions the two hands have different functions. In his analysis, the non-dominant hand conveys background information whereas the dominant hand expresses information that is foregrounded. For Miller this explains why in simultaneous constructions it is usually the dominant hand that moves, whereas the non-dominant hand is held still. He prefers this functional explanation to a phonological analysis confining movement to the dominant hand. In Section 6.5 I will show that the functional analysis provided by Miller does not work for all examples in LIU. Instead, I propose a phonological rule that leaves room for dominance reversal. The functional properties of dominance reversal will be discussed in Section 6.7.

I propose the following rule for simultaneity:
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(6.3) Manual simultaneity can only take place when at least one of the hands makes no lexically specified movement, or when the movement of the two hands is symmetrical.

This rule makes it impossible for signs to be made simultaneously when they both have a different inherent movement. Inherent movement is movement that is specified in the lexicon as belonging to a specific sign, or that is the result of a productive morphological form such as a classifier construction (Emmorey 2003). The rule does not allow, for instance, the simultaneous production of a sign with up-and-down movement on one hand and a sign with side-to-side movement on the other hand. This is also articulatorily almost impossible.

Thus, when one hand produces a sign with a certain inherent movement, the other hand can only produce a sign that has no movement, a symmetrical movement, or a very simple phonetically inserted movement from one location to another, that is, not a lexically specified movement. The LIU numerals one to five are examples of signs that have no movement. Thus, numbers can occur simultaneously with any (one-handed) sign on the other hand. Liddell (2003) mentions list buoys in ASL as a special kind of construction on the non-dominant hand, as different from numbers. In LIU, however, signs that look very similar to Liddell’s list buoys, as well as number signs in their regular form, can occur simultaneously on either the dominant or the non-dominant hand (Section 6.6.2) because they are well-formed under the phonological simultaneity condition in (6.3).

Signs with only a phonetically inserted movement are those that make a straight movement towards a certain location in the signing space, or from one location to another, as represented in many phonological models since Liddell (1984b). Pointing signs are examples of signs that move towards a certain ‘locus’ in the signing space. According to Liddell (1990), a locus is a point in space representing either a referent or the location of an entity. An index pointing at a locus does not have an inherent movement. It simply makes a ‘transitional’ movement towards that locus. This movement resembles the transitional movements between two signs, in not being lexically specified. Once an index has reached the position where it points at a certain locus, it can be held there without movement. This makes pointing signs another set of forms likely to be found in simultaneous constructions. As we will see in the LIU data below (specifically Section 6.6.1), indexes do indeed occur in simultaneous constructions and, like numbers, may be held on either the dominant or the non-dominant hand.

Classifier constructions express the location or the movement of an entity in the signing space. When both hands simultaneously produce a
classifier, it is often the case that only one of these classifiers expresses a path movement, whereas the other hand simply makes a phonetic movement to a certain location. One classifier may be located at a certain point in the signing space, while the other classifier moves in relation to that position. An example can be seen in the interaction between the BRIDGE and VEHICLE classifier in Figure 6.2. Constructions in which a classifier is made simultaneously with a sign that does not involve a classifier also occur. In these cases the classifier does not normally move in LIU (Figure 6.2).

Under the phonological rule for simultaneity presented in (6.3), the only examples of simultaneity in which there is more than just a short phonetic movement on both hands are classifier constructions in which both hands make a simultaneous path movement. The LIU data show that in these cases the two hands make the same movement or mirror each other’s movement. Where this is not the case, a perseveration tends to occur. Thus, these constructions seem to adhere to a strict symmetry rule for movement, similar to Battison’s (1978) ‘Symmetry Condition’ for two-handed signs, given in (6.4).

(6.4) **Symmetry Condition:**
If both hands of a sign move independently during its articulation, then both hands must be specified for the same handshape, the same movement (whether performed simultaneously or in alternation) and the specification for orientation must be either symmetrical or identical.

The phonological rule in (6.3) may even be analysed as an extension of Battison’s symmetry condition for movement, in which case this condition would have wider application than just for two-handed lexical signs (Engberg-Pedersen 1993; Kita, van Gijn and van der Hulst 1997). However, Battison imposes a restriction on the articulators, the lexical symmetry condition, whereby the two hands should have identical handshapes and identical or symmetrical orientations. This restriction is not applicable to the rule proposed here, because the rule in (6.3) applies to morphologically complex constructions rather than two-handed mono-morphemic signs (cf. Engberg-Pedersen 1993; Emmorey 2002).

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46 Engberg-Pedersen (1993:295) notes that simultaneous constructions involving classifiers (or in her terms, ‘polymorphic verbs’) resemble two-handed signs in some ways. She explicitly mentions many of these constructions can be subsumed under Battison’s Symmetry Condition, but that there are differences between two-handed signs and simultaneous constructions with classifiers in the handshapes and the sequences of movement that are allowed. Moreover, Kita, van Gijn and van der Hulst (1997) show that the Symmetry Condition even applies to co-speech gestures.
In fact, the rule in (6.3) may not just be a phonological rule for LIU, but a universal rule that is governed by articulatory constraints. According to Vermeerbergen, most simultaneous constructions in VGT involve either a pointing sign or a number on one of the hands because most other signs have a movement component and it is very hard to produce two different movements on both hands (Vermeerbergen 2001). Leeson and Saeed (2004) stress the fact that the constructions they describe for IrSL are referred to as simultaneous, but that one element is typically introduced prior to the second element. In other words, simultaneous constructions in IrSL are typically not ‘fully simultaneous’ but involve perseverations. With regard to NGT, Crasborn (2006) mentions that full simultaneity is rare, but ‘spreading of the weak hand’, that is perseveration, is very common. This may be due to “the complex motor control required to actually produce two different movements with (potentially) different articulatory configurations” (Crasborn 2006:74). Such statements lend support to an analysis in which simultaneous constructions are restricted by a phonological rule, which is itself determined by articulatory constraints and is therefore expected to be universal, in the same way as Battison’s Symmetry Condition.

The claim that the rule in (6.3) is universal would mean that some of Miller’s examples of full simultaneity in LSQ have to be re-analyzed. In fact, the LSQ example in (6.2.), cited by Miller as an example of full simultaneity, can be included in the rule in (6.3) because the classifier does not have an inherent lexical movement, but makes a simple, phonetically inserted movement towards a locus. Miller’s translation shows that in this example the emphasis is not on the path of the classifier, but on a locus near or far from the ASL signers.

6.5 Simultaneity in classifier constructions in LIU

Simultaneity has often been discussed in connection with classifier constructions (e.g. Engberg-Pedersen (1994) for DSL) In this use simultaneity expresses the locative relationship of two referents. An overview of the different classifiers used in LIU has been provided by Hendriks (2004) and Van Dijken (2004). In the previous section, I have already observed that such constructions in LIU are only possible if the two hands move in a symmetrical way, or if one of the classifiers does not move or has no lexically specified movement. An example of such a simultaneous classifier construction is in (6.5).47

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47 An overview of the conventions used here for transcription is given in Section 1.4.
In this example the two classifiers move around together, representing two people walking next to each other. The two hands make the same movement, thus providing evidence for the generalization in (6.3). In constructions where both hands move simultaneously, it is not evident that the information on one hand is more in focus than the information on the other hand.

There are, however, also constructions in which one hand holds a classifier, while the other hand produces signs that are not classifiers. One example of this type of simultaneous construction in LIU is presented in Figure 6.2. The LIU classifier vehicle is shown in Figure 6.1.

Figure 6.1: vehicle classifier
In the first picture of Figure 6.2 the non-dominant hand produces the LIU vehicle classifier (Figure 6.1), which moves forward\textsuperscript{48}, while the dominant hand produces a classifier depicting a bridge under which the vehicle passes. Since the classifier representing the bridge only has transitional movement, that is, it moves to the point in the signing space where the bridge is located, the two signs can be produced simultaneously according to the rule in (6.3). In the second picture the vehicle classifier on the non-dominant hand is held still in its final location, while the dominant hand signs the verb KNOW, slightly tapping the forehead. Again, it is possible to make these two signs simultaneously, because the vehicle classifier has stopped moving. In the third picture, the signer repeats the earlier classifier construction, during which the vehicle classifier makes the same movement as before and, when it stops in the same location as before, the dominant hand continues signing STAY WHAT (pictures 4 and 5). Subsequently, the dominant hand also takes on the handshape of the vehicle classifier and represents other cars that are passing the car parked underneath the bridge (pictures 6 and 7). Finally, in the last picture, the dominant hand produces an index pointing to the vehicle classifier on the non-dominant hand.

In this example the two hands move in alternation. If the movement of a particular hand indicates that the information presented on that hand is foregrounded, as suggested by both Miller (1994) and Engberg-Pedersen (1994) for some of their examples, this would mean that foregrounding of information can occur on both the dominant and the non-dominant hand in LIU. However, in Figure 6.2, it would seem that the vehicle classifier on the non-dominant hand is foregrounded throughout the construction. This

\textsuperscript{48} The non-dominant hand was already holding the vehicle classifier in the previous utterance. It starts moving simultaneously with the production of the bridge classifier.
vehicle plays an important role in the story because the hero of the story is trapped inside. The idea that this vehicle is foregrounded, even when it does not move, is confirmed by the final index on the dominant hand in Figure 6.2, which points to the vehicle classifier, making sure that the addressee understands it is still this vehicle that forms the centre or focus of the discourse, rather than any of the vehicles passing it.

This example from LIU shows that the non-dominant hand does not necessarily hold background information. It is also not necessarily the case that the non-moving hand in a simultaneous construction conveys background information, at least in classifier constructions. In fact, I propose that, in this particular classifier construction, it is the classifier on the non-dominant hand that is foregrounded throughout the construction, because it is the focus of the discourse, whether it moves or not. The fact that it is held on the non-dominant hand, rather than the dominant hand, may be the result of a phonetic constraint for movement to occur on the dominant hand. This is, however, a tendency rather than a rule, since the vehicle classifier on the non-dominant hand does move. If movement in these constructions were confined to the dominant hand, the vehicle classifier would have to switch hands repeatedly. This would not only slow down the story, but might also lead to confusion on the part of the addressee because of the discontinuity. Instead, a repeated reversal of dominance takes place. In this example, then, dominance reversal is simply a part of the simultaneous construction and does not seem to have a meaning or function of its own. In Section 6.7, however, we will see that dominance reversal can also occur with its own discursive functions.

The examples in this section show that in LIU the two hands can be used flexibly, creating two-handed classifier constructions, or combining lexical signs and classifier constructions, but the flexibility in creating these combinations is limited by the phonological restriction in (6.3). From a cross-linguistic perspective, LIU is not very different from other sign languages as far as simultaneity involving classifiers is concerned. As was mentioned in Section 6.3, Vermeerbergen (2001) finds that simultaneity in VGT occurs both in two-handed classifier constructions and in constructions where a classifier is held still while the other hand produces one or more signs. As far as backgrounding and foregrounding in simultaneous constructions is concerned, LIU behaves the same way as IrSL.

“[T]he features foregrounded, animacy and activity typically map into articulation on the dominant hand while the features backgrounded, inanimacy and inactivity map into articulation on the non-dominant hand” but “discourse-related factors can influence the assignment of the most active element on the non-dominant hand.” Leeson and Saeed (2007:59-60)
Not all sign languages have two-handed classifier constructions similar to the examples in (6.5) and Figure 6.2. In certain village sign languages the use of bimanual simultaneous constructions seems to be much more restricted. Simultaneous classifier constructions such as described in this section are not found in AdaSL, for example, because AdaSL does not use constructions involving entity classifiers at all. Instead, “AdaSL uses a series consisting of a manner verb and a generic directional verb or a spatially modified whole body sign” (Nyst 2007b:143). Nyst (2007b:127) infers that “simultaneous constructions are a pervasive feature of large Deaf communities”.

It would appear, then, that sign languages which make use of entity classifiers can use these in simultaneous constructions similar to the ones in LIU. Thus, LIU patterns with other sign languages of large Deaf communities as far as two-handed classifier constructions are concerned, although there is no a priori reason why all sign languages of large Deaf communities should function in this way. Further cross-linguistic research might show that there are more sign languages like AdaSL, in which such simultaneous classifier constructions do not occur.

6.6 ‘Buoys’ in LIU

Liddell (2003) presents a detailed analysis of four types of simultaneous constructions, which he refers to as ‘buoys’. He defines these buoys as signs produced on the non-dominant hand and held stationary as the dominant hand continues signing. (cf. also Liddell, Vogt-Svendsen and Bergman (2007) for buoys in ASL, SSL and Norwegian Sign Language (NSL)). The list buoy is used for making associations with from one to five entities. These are produced with handshapes corresponding to the numeral signs ONE to FIVE, but with the fingers oriented sideways rather than upward. The POINTER buoy is an index pointing towards an important element in the discourse, like the final index in Figure 6.2. The fragment buoy is the perseveration of a two-handed sign on the non-dominant hand during the production of a subsequent sign on the dominant hand. The THEME buoy, does not occur in the LIU data, and so will not be discussed in this chapter.

The simultaneous constructions I want to discuss in this section are those which involve the use of numerals, the use of an index or the use of perseverations. These constructions resemble Liddell’s list buoys, POINTER

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49 The convention to write the POINTER and THEME buoy in capitals and list buoy and fragment buoy in small letters is taken from Liddell (2003).
buoy and fragment buoys respectively. LIU has a much wider range of such constructions than have been described for other sign languages. In LIU these ‘buoys’ are not special kinds of constructions in terms of their phonological characteristics, they do not have to be held on the non-dominant hand, and are by no means limited to the categories listed in Liddell (2003). In the analysis presented here, buoys are simply simultaneous constructions that are possible under the phonological simultaneity rule in (6.3), and their function of ‘guiding the discourse’ (cf. Liddell 2003:223) is considered a function of simultaneity in general and will therefore not be discussed.

6.6.1 Simultaneity involving pronouns

Liddell (2003:250) defines the POINTER buoy as a buoy which “points toward an important element in the discourse” (italics in the original). One of his examples is given in (6.6).50

(6.6) dh: BUT FOOD DELICIOUS [ASL]

\[
\begin{array}{c}
\text{ndh: POINTER}_{\text{food}} \\
\end{array}
\]

“But the food was delicious.”

Similar examples are also found in LIU, as in (6.7). Here an index on the non-dominant hand is held stationary while the dominant hand continues signing.

(6.7) dh: INDEX\text{right} MOTHER INDEX\text{left} KNOW OLD MOTHER SELF\text{right} 

\[
\begin{array}{c}
\text{ndh: INDEX}_{\text{left}} \\
\end{array}
\]

\[
\begin{array}{c}
\text{dh: OLD KNOW GO}_{\text{right}} KNOCK EMPTY \\
\text{ndh:} \\
\end{array}
\]

“I know, mother is at grandmother’s, at grandparents’, I know. So we went there and knocked, but there was no-one.”

In (6.7) the locus of the mother (INDEX\text{left}) in the signing space is held on the non-dominant hand, while the dominant hand signs where she might be, which is located on the right hand-side of the signing space (GRANDMOTHER’S). At this point in the story, the mother is the focused element in the discourse, and the index is held in position as long as she is in

50 This example is taken from Liddell (2003:255), but includes pictures in the original, which are left out here.
focus, and as long as no two-handed sign occurs to break up the sequence.\footnote{The index is still held while the signs GO\textsubscript{right} KNOCK are produced, although the subject has changed. However, it is slowly moving from the left side to a more neutral position. It would seem that at this point the index has lost its semantic function and can no longer be properly called a buoy.} In this example, therefore, the index could be seen as a POINTER buoy, because it points to something that is important in the discourse.

However, in LIU not only indexes have this function, but other pronouns do, too. LIU has a pronoun which I describe as an ‘emphatic/possessive pronoun’ and gloss as SELF (cf. Chapter 3.2.2 and Chapter 5.3.1). It can be seen as the emphatic version of the index when it is used as a pronoun. Both indexes and emphatic/possessive pronouns can occur in simultaneous constructions, because they do not have lexically specified movement. The emphatic/possessive pronoun is held on the non-dominant hand while the dominant hand continues signing in (6.8). In this example the girls are located on the left-hand side of the signing space.

(6.8) dh: GIRLS LAND(2h)\textunderbar{ONLY}  
ndh: LAND(2h) SELF\textsubscript{left}\textunderbar{}  

“The land belongs to the girls, and that’s final.”

Although this example is not as long as (6.7), it is clear that the emphatic/possessive pronoun, which has possessive meaning here, is held on purpose by the signer until the end of the utterance. This is especially clear, because the sign glossed as ONLY is normally a two-handed sign, but is here produced with one hand so that the pronoun can be left in its position. This seems to give additional emphasis to the statement. Thus, both the index and SELF can point to important elements in the discourse, functioning in a similar way. Combined with dominance reversal, they can also occur on the dominant hand, as will be shown in (6.19).

Although the use of indexes in simultaneous constructions has been mentioned for many sign languages as well as for co-speech gestures (Vermeerbergen and Demey 2007), and is one of the most common forms of simultaneity (Miller 1994; Vermeerbergen 2001), I have not found descriptions of simultaneous constructions involving a pronoun which is not an index. In fact, Liddell (2003:255) suggests that the pointer buoy is not a pronoun and one of the reasons he gives is that he is not aware “of any evidence that other pronouns...are produced and held as other signs are produced”. In LIU such evidence can be found in the occurrence of simultaneous constructions with SELF. Therefore, the fact that indexes occur in simultaneous constructions does not mean they cannot be ordinary
It would appear, then, that in LIU simultaneous constructions can involve pronouns, which, according to Liddell, is not possible in ASL.

### 6.6.2 Numerals in simultaneous constructions

Three different kinds of simultaneously produced numerals were found in the LIU data. The first type is comparable to what Liddell (2003) describes in ASL as a list buoy. Other than for cardinal number signs, the fingertips typically point sideways and are associated with referents. Enumeration of referents starts at the thumb in LIU, as in ASL. The non-dominant hand signs the list buoy and the dominant hand typically touches the fingertips of the list buoy for each consecutive enumerated referent (Figure 6.3). As appears from this LIU example, however, this contacting of the fingertips is optional (Liddell, Vogt-Svendsen and Bergman 2007). The thumb, which is the first digit that is held up for the list, is not touched by the dominant hand or even pointed at. In LIU, the dominant hand does not make contact with the first item of a list in particular.

Figure 6.3: “We got softdrinks, we got nuts, and what else......cookies.”

In ASL, SSL, and NSL the hand configuration found in list buoys is in most cases the same as those found in the corresponding numeral signs of the language (Liddell, Vogt-Svendsen and Bergman 2007). In LIU there is,
however, a difference between the hand configuration of the first two items of a list and the corresponding cardinal number signs. Whereas for the list buoy counting mostly starts at the thumb, cardinal numbers start at the index.\textsuperscript{52} The difference between a cardinal number TWO and a LIST-TWO in LIU is shown in Figure 6.4a and 6.4b. Otherwise, however, this construction appears to have mostly the same characteristics as described for ASL, SSL and NSL.

![Figure 6.4a: the number TWO used in a list](image1)

![Figure 6.4b: the cardinal number two in a simultaneous construction](image2)

However, lists are not the only types of numerals that can occur in a simultaneous construction in LIU. The cardinal number TWO, which compared to the list numeral has both a different handshape (index and middle finger extended) and a different orientation (palm outward, fingers upward), also occurs simultaneously on the non-dominant hand, as shown in Figure 6.4b. In (6.9) the numeral is not a buoy according to Liddell’s definition because it is not held stationary on the non-dominant hand, but on the dominant hand. In this case it is the non-dominant hand that continues signing. In Liddell’s definition buoys only occur on the non-dominant hand. Also, the sign TWO does not represent an item in a list, but modifies the noun GIRL in a simultaneous construction, meaning “the two girls”.

\textsuperscript{52} In some cases the LIU list does start with the index, particularly if this finger is already extended in the lexical sign which precedes the list. In this case, however, the hand configuration of the number THREE differs for the list buoy and the cardinal number. The cardinal number THREE is made with the thumb, index and middle finger extended, whereas a list that starts at the index has the index, middle finger and ring finger extended for the THREE-list.
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(6.9) dh: CHILD(2h) TWO

ndh: CHILD(2h) GIRL WHAT FATHER DEAD CRY

“And what about the two children, the girls? Their father was dead and they cried.”

The third way in which a simultaneous construction involving a numeral appears in the LIU data, albeit only once, is shown in Figure 6.5. This is a very interesting example, because the numeral is different from both the list numeral in Figure 6.4a and the cardinal number in Figure 6.4b. In fact, it has some characteristics of both. Although the hand orientation is like that of the number TWO, the counting starts at the thumb, like the list numeral. This numeral is used to modify a verb. The signer is talking about a person who keeps sending e-mails but gets no reply. She then signs the verb SEND several times, each time adding a finger to the numeral on her non-dominant hand, as shown in Figure 6.5. Note that this signer is left-handed.

Figure 6.5: “He sent an e-mail, no (reply). He sent another one, but no (reply). He sent again and again, but no (reply).”

The thumb position cannot be seen very clearly in the pictures. The third picture of Figure 6.5, however, shows that the thumb is extended and it remains in that position throughout the sentence.

53 The thumb position cannot be seen very clearly in the pictures. The third picture of Figure 6.5, however, shows that the thumb is extended and it remains in that position throughout the sentence.
Although the numeral signs in this example have certain properties of Liddell’s category of list buoys, they cannot be considered list buoys because the fingers or fingertips are not associated with different referents. In (6.9) the numeral is also clearly used to quantify a noun, and the numerals in Figure 6.5 are ‘quantifying’ the verb in that they indicate repetition of the action. So following Liddell, Vogt-Svendsen and Bergman (2007:191) this means it cannot be a buoy: “[n]umerals can be used to quantify nouns, but list buoys cannot”. These examples, then, show that in LIU the list buoy in which the fingertips are associated with referents is not the only type of numeral that can occur on the non-dominant hand in a simultaneous construction. Under the phonological rule given in (6.3), certain numerals, including 1 to 5, can always be produced simultaneously because they have no inherent movement. This is also borne out by the data.

There is not much cross-linguistic data on the use of numeral signs on the non-dominant hand that are not list buoys. One of the differences between numerals and list buoys is claimed to be that “[n]umeral signs are produced by the strong hand and list buoys are produced by the weak hand” (Liddell, Vogt-Svendsen and Bergman 2007:189). This appears to exclude numeral signs produced on the weak hand in the languages they have studied (ASL, SSL and NSL). Friedman (1975:953), however, gives an example from ASL in which a number of verbs occur on the dominant hand, and numerals expressing the time at which those actions took place on the non-dominant hand, as shown in (6.10).

(6.10) dh: ENGLISH CLASS GO HOME STUDY EAT [ASL] 
      ndh: TWO (O’CLOCK) FOUR SIX SEVEN

“At two (I go to) English class; from four to six (I) go home and study; at seven (I) eat.”

The construction in (6.10) shows that numerals other than list buoys can be found on the non-dominant hand in ASL as well. Moreover, Vermeerbergen and Demey (2007), discussing number signs produced on the non-dominant hand in simultaneous constructions in VGT, comment that they

“are not 100% sure whether the production of the non-dominant hand should be considered a sequentially built list in all these cases….at this stage we are not inclined to make such a clear-cut distinction between list buoys and the corresponding signs as other authors have done.” (Vermeerbergen and Demey 2007:263)
There clearly are sign languages other than LIU, then, in which the distinction between ‘list buoys’ and other numerals on the non-dominant hand is not clear-cut. Miller (1994), in discussing list buoys (in his terms ‘enumeration morphemes’) also gives one example of a numeral ONE that is held on the non-dominant hand while the other hand continues signing. He does not seem to consider this a separate category of simultaneity, however, as the example is given to illustrate the use of simultaneous mouthing, which also occurs in the same sentence.

Vermeerbergen and Demey (2007) mention examples of the simultaneous production of speech and co-speech enumeration gestures on the hands. Using a game whereby players had to recall a list of items, they found that many of the players built sequential lists while they were naming the items on the list, that is, they extended the first digit when naming the first item, the second when naming the second and so on. Simultaneous constructions using enumeration (list buoys), then, are not limited to sign languages but also occur when speech is combined with co-speech gestures.

In summary, although simultaneous constructions involving enumeration appear to be very common in most sign languages, and are even found in co-speech gestures, not much attention has been paid in the literature to simultaneous constructions involving non-list numerals. It is unclear whether these are separate constructions and whether they can occur as freely in other sign languages as they seem to occur in LIU. If a distinction is made between perseverations and full simultaneity, it is not clear in which category such constructions fall. In the analysis presented here, however, no distinction of this kind needs to be made. It is precisely because they have no movement, and therefore obey the rule in (6.3), that different kinds of numerals can freely occur in simultaneous constructions in LIU. I would expect that the same is true for other sign languages, but more cross-linguistic research in this area will need to be done.

6.6.3 Perseverations

Liddell (2003:248) gives the following definition of perseveration:

“When a one-handed sign follows a two-handed sign, it is common for the weak hand to maintain its configuration from the preceding two-handed sign as the strong hand produces the following one-handed sign. When this occurs, the weak hand is said to perseverate into the succeeding one-handed sign.”

According to Liddell many perseverations do not appear to serve any semantic function. However, when a signer assigns significance to a
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perseveration, that is, directs attention to it, it becomes a ‘fragment buoy’, because it helps guide the discourse. Although Liddell only mentions perseverations of the non-dominant hand of two-handed signs, Miller (1994:98) finds for LSQ that “[a] perseveration may involve either a one-handed sign or one hand of a two-handed sign”. When a perseveration of a one-handed sign occurs, a reversal of dominance needs to take place, with the perseveration occurring on the previously dominant hand. Examples of such constructions in LIU are given in Section 6.8. Thus, perseverations, at least in LSQ, and also in LIU, do not have to occur on the non-dominant hand as Liddell claims for fragment buoys in ASL.

In LIU, as in ASL, perseverations do not always have a clear syntactic or discursive function and may sometimes be purely phonetic. However, even when the grammatical function of perseverations is not clear, it would seem that they can mark prosodic domains (see also Nespor & Sandler (1999) and Sandler (1999a) for the delineation of phonological domains by the non-dominant hand in Israeli Sign Language). In this section I will, however, concentrate on meaningful instances of perseveration, that is, examples in which perseveration has a function.

In the analysis given here, such meaningful perseverations occur when two signs with inherent movement occur together in a simultaneous construction, but are not allowed to move simultaneously because of the simultaneity rule in (6.3). In these cases, one hand moves first and the end state of that sign is held while the other hand produces the other sign. Engberg-Pedersen (1994) mentions perseverations in classifier constructions (polymorphemic verbs in her terms) in DSL and argues that these verbs have a ‘hold morpheme’. She assumes that this hold morpheme occurs on the hand that expresses information that is not in focus. In the phonological analysis presented here for LIU, however, perseverations are not treated as a special kind of construction and do not have hold morphemes. They are simply considered a phonological strategy that allows simultaneity for syntactic or discursive purposes when two signs are involved that do not obey the rule in (6.3). Perseverations can be held on one hand while the other hand produces several signs. In this way they behave like signs that have no inherent movement, such as numbers, indexes, and classifiers.

Perseverations, when purposely held by the signer, and signs with no inherent movement can function in the same way, as shown in the following examples. Example (6.11) shows the perseveration of the sign CAR on the non-dominant hand, while the dominant hand signs what happens during the driving.
(6.11) dh: CAR(2h) GO INDEX$_{\text{forward}}$ RECOGNIZE INDEX$_{\text{BUILDING}(2h)}$
ndh: | CAR(2h) --- | --- | --- | --- |
| | BUILDING(2h) |

“She drove around and recognized the building over there.”

Example (6.12) shows the one-handed sign PHONE$_{\text{v_j}}$, which has no inherent movement and is held on the non-dominant hand, while the dominant hand signs what is said on the phone.

(6.12) dh: | ASK$_{\text{right}}$ | NO | ASK HELLO |
| ndh: PHONE$_{\text{v_\j}}$ |

“He phoned and asked, but no, he asked someone else and said ‘hello’…”

Both (6.11) and (6.12) are examples of an almost iconic type of simultaneity, expressing simultaneous action (cf. Section 6.3). These examples show that perseverations of two-handed signs, such as CAR in (6.11), can function in the same way as one-handed signs with no inherent movement, such as PHONE$_{\text{v_j}}$ in (6.12). Therefore, I conclude that they are not a special kind of construction in LIU with regard to simultaneity and that they do not have to be distinguished from full simultaneity. In fact, I have not found any clear distinctions in function between perseverations and full simultaneity in the literature on simultaneity, which indicates that, even when a distinction between the two is made, this distinction might be purely phonetic cross-linguistically. In LIU at least, the different functions of simultaneity presented in 6.3, such as establishing contrast, or representing different referents (Section 6.8) apply to simultaneity in general and it is the phonological rule in (6.3) which determines whether two signs can be produced simultaneously or whether a perseveration needs to be used.

### 6.7 Functions of dominance reversal

Frishberg (1985) defines grammatical dominance reversals as: “instances in which a signer switches the expected dominance relations between the hands for a stretch of one or more signs.” (Frishberg 1985:81). Dominance reversals tend to occur mainly to express contrasts or transitions in the discourse. The two hands may, for instance, represent two different participants in the story. They may also mark a transition from narration to

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54 As opposed to lexical dominance reversals, which are produced mainly by non-native signers in two-handed signs and are not relevant for simultaneity.
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the direct speech of one of the characters in the story, or from narration to interjections addressed directly to the addressee. An example of an interjection that is marked by dominance reversal is given in (6.13). In this example the non-manual markers, in particular head position, also indicate that the verb on the non-dominant hand is addressed directly to the person listening to the story, rather than being part of the narrative. The story involves someone who is guilty of hurting someone else. The daughters of the victim, who are the protagonists of the story, want to know who has done it. In (6.13) the signer produces the first five signs as their direct speech and then utters the last sign as an interjection.

(6.13) dh: PERSON WHO INDEX forward EXIST WHO

[wh-question // yes/no question]

ndh: KNOW

“Which person did it? Someone did it, but who? Do you know?”

The dominance reversal in (6.13) seems to mark a transition in the discourse, and is independent of simultaneity, since similar constructions without simultaneity also occur. In this example, the dominance reversal does, however, interact with simultaneity. The dominant hand holds the sign WHO, while the non-dominant hand produces the interjection. It is not entirely clear what the function of the simultaneity in this example is. It may tie the interjection to the previous utterance, or establish a certain prosodic domain within which spreading of phonological features is allowed.

An example of dominance reversal for contrastive purposes is given in (6.14). One of the characters is having a meal, while the other character is leaning on the table and staring at her. The person eating gets nervous and wants to know why the other person is staring. She offers him some food, but he declines.

(6.14) dh: LEAN STARE WHAT STARE-AT1 WHAT FOOD

[wh-question // y/n-ques // headshake]

ndh: CL: TABLE WHAT FOOD

NEG: APOL

“He leaned on the table and stared at her. What is he staring at me for? (She said:) ‘Some food?’ (He replied:) ‘No thanks.’”

55 It is interesting to analyze the non-manual markers in this example. The dominant hand holds a wh-sign, while the non-dominant hand signs a yes/no question, but these types of questions have contrasting non-manual markers. For a content question the head is tilted backward, whereas for a yes/no question it is tilted forward. The non-manual markers clearly change when the sign KNOW is produced and thus follow the hand that is active, rather than the dominant hand.
In this example, too, the dominant hand holds the end state of the sign FOOD while the non-dominant hand signs the reply. This may be done to establish a link between the question and the answer, but similar constructions without simultaneity are also found, as in (6.15).

(6.15)  dh: YESTERDAY COME // PRESENT(2h)  
        ndh:  
        YESTERDAY  PRESENT(2h)  
        “(She said:) ‘I came yesterday.’ (They replied:) ‘But we were here yesterday!’”

An example of a dominance reversal marking a contrast between narration and direct speech can be seen in (6.16). This utterance is part of a story in which the relatives of two young girls, who have lost both their parents, want them to give up ownership of their land.

(6.16)  dh: GIRLS STUBBORN  
        ndh:      NEVER  
        “The girls were stubborn (and said:) ‘Never!’”

The construction with dominance reversal can be replaced by a longer construction which does not contain dominance reversal. In such a construction the sign for the person uttering the direct speech would have to be repeated, as in GIRLS STUBBORN GIRLS (SAY) NEVER. A few longer examples illustrating this same phenomenon were produced by the same signer.

A fourth use of dominance reversal seems to mark the transition from subject to predicate, or possibly, more generally, from topic to comment. Although dominance reversal is not the only or the most common way to mark this transition, it is regularly used in this way, and is used by the older signer in a more formally told story, as shown in example (6.17).

(6.17)  dh: MULTI-COLOURED-COAT  
        ndh:      BEAUTIFUL GOOD  
        “The multi-coloured coat was beautiful and good.”

Although this use of dominance reversal often occurs when the predicate is an agreement verb or a classifier directed to, or located at, the non-dominant hand side of the signing space, it can also occur with body-anchored verbs or predicates made in neutral space. A perseveration of the subject can be held on the dominant hand, creating a simultaneous construction (Section 6.8).
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In addition to marking transitions or contrasts, dominance reversals may also be used to locate an entity on the side of the non-dominant hand in the signing space, using a pointing sign, a classifier or an agreement verb. In these cases, dominance reversal is not necessarily a discourse strategy, but often seems to be used to make articulation easier and faster, because the dominant hand does not have to cross the midsagittal plane to reach the other side of the signing space.

There is considerable variation between LIU signers as to the extent to which dominance reversal is used. As was noted earlier, younger signers appear to use dominance reversals more frequently than older signers, but there is also variation within these generations. It is not always apparent what the linguistic function of dominance reversals is for signers who switch hands very frequently. Similarly, there are individual differences in frequency of the use of dominance reversals in ASL (Frishberg 1985). Left-handed signers seem to use dominance reversals more frequently than right-handed signers. Grammatical dominance reversals are used more often by Deaf signers than by hearing signers, which Frishberg interprets as a mark of fluency. This also appears to be the case in LIU. It is used mostly by the younger generation of signers, who tend to be more fluent than older signers, who were educated orally.

Frishberg (1985) claims that dominance reversals in ASL mark strong contrasts in the text. These contrasts may be firstly between two referents (arguments) placed on opposite sides of the signing space and indexed by two different hands, secondly between the main narrative and a parenthetical remark, and thirdly between signing and gestures. Example (6.18) taken from Frishberg (1985:84) is of the second type, which, according to Frishberg, is one of the most common types of dominance reversal. In this example the signer interrupts the narrative to explain to the addressee why she was given ten dollars.

\[(6.18)\] dh: GIVE-ME TEN DOLLAR [ASL]

ndh: BECAUSE ME FOUR QUEEN

“They gave me ten dollars, because I had four queens.”

This example is similar to the LIU example in (6.13), where a dominance reversal is likewise used to interrupt the narrative with a comment to the addressee. The difference between the LIU example in (6.13) and the ASL example in (6.18) is that there does not appear to be any simultaneity involved in the ASL example.

Dominance reversals in LIU and ASL, then, appear to function in a similar way. In both languages dominance reversals are not obligatory and there are alternative ways to express such contrasts. The fact that dominance
reversals signal contrasts in an almost iconic way may explain why these constructions function in such a similar way in two unrelated sign languages.

In the next section we will see that, when combined, dominance reversals and simultaneity can have very interesting syntactic and discursive functions in LIU.

6.8 The interaction of simultaneity and dominance reversals

The most interesting examples of simultaneity in LIU occur in interaction with dominance reversals. We have already seen an example of dominance reversal and simultaneity interacting in classifier constructions in Figure 6.2. In such examples, the locative relation between two elements, like the bridge and the car from that example, is expressed simultaneously, leading to reversal of dominance if the classifier on the dominant hand (in this example, the vehicle classifier) is held for a longer stretch of discourse. In the constructions presented in this section, it is not always clear whether the signers use a dominance reversal in order to create a simultaneous construction, or whether simultaneity is merely a side effect of a dominance reversal. The linguistic function of dominance reversals is not always clear, especially for those signers who use this device more frequently.

Example (6.19) shows that both the emphatic/possessive pronoun SELF and the INDEX can occur on the dominant hand in a simultaneous construction, when combined with a dominance reversal, as stated in Section 6.6.1. In this case a dominance reversal is used to contrast the location of two referents in the story: a mother and her sister who have had a fight.

\[
(6.19) \text{dh: } \text{REMEMBER(2h) INDEX}_{\text{right}}\underline{\text{SELF}}_1\underline{\text{FIGHT}} \\
\text{ndh: } \text{REMEMBER(2h) MOTHER}_{\text{left}}\underline{\text{INDEX}}\underline{\text{RELATIVE(2h)}} \\
\]

“They remembered: our mother and her relative had a fight.”

In this example the dominance reversal also seems to be phonetically motivated. The signer uses a large signing space and the pointing signs are made with outstretched arms. Because the locus for the mother is on the right-hand side of the signing space, the signer uses her right (dominant) hand to point to it. She uses her non-dominant hand to indicate a locus on the left side of the signing space, making articulation easier. Note, however, that the nouns MOTHER and RELATIVE are both signed on the non-dominant hand. The sign RELATIVE is normally a two-handed sign, but is produced here with one hand. Although the noun MOTHER is signed simultaneously with its
determiner (the index pointing to the right), the sign RELATIVE is signed on the same hand as its determiner and follows it. It would also have been possible, and even more clearly contrastive, to also sign the two nouns on different hands, or to use the dominant hand for both. I suggest that the signer chooses to sign both MOTHER and RELATIVE on the non-dominant hand, because she intentionally creates a simultaneous construction. The fact that the two-handed sign RELATIVE is only signed with one hand further supports this interpretation. If the simultaneous construction is indeed created intentionally, it must have a function.

In this example simultaneity may occur to help the addressee to interpret the syntactic structure of the clause. The NP [det. noun poss.] is complex, because the sign MOTHER is modified by both a determiner (the index) preceding it and a possessive pronoun following it. In order to make sure that the addressee understands that both these signs belong to the same syntactic constituent, the signer uses a simultaneous construction linking the three signs together. The last sign of the constituent is then held as a ‘fragment’, or perseveration, of the constituent as a whole, while the other hand signs the next NP. Because the prolonged possessive pronoun represents the entire previous constituent, it is clear that it is “my mother’s sibling” who is the other party in the conflict, rather than the signer’s or someone else’s sibling. This type of simultaneity may be an alternative strategy to localization, which appears to be used less frequently in LIU than in many documented Western sign languages (cf. Chapter 7.5).

A similar example of the use of simultaneity is found in (6.20).

(6.20) dh: MOTHER SELF—SIBLING——LAND(2h) TAKE
ndh: DEAD——BOY LAND(2h)

dh: SAY OUT GIRL TWO
ndh: 

“The brother of their mother who had died, took the land and told the two girls to get out.”

This example contains a very complex NP “the brother of their mother who had died”, the structure of which is clarified by simultaneity and a dominance reversal. There is no ambiguity in the possessive pronoun glossed as SELF, since it can only modify the noun MOTHER. Simultaneity is therefore not needed to disambiguate the syntactic structure. The sign DEAD is used as a relative clause, as is shown by the facial expression (Hendriks 2004). The dominance reversal may mark the transition between the main clause and the relative clause. A perseveration of the sign DEAD is held on
the non-dominant hand, while the dominant hand continues with the main clause, indicating that this is still the same noun phrase and that the referent mentioned next is the brother of the woman who had died. It is not clear why dominance reversal takes place between the signs SIBLING and BOY, which together mean “brother”, unless this is a parenthetic comment to be translated as “a sibling, a brother, of their mother who had died”.

In this example simultaneity does not only occur in the complex NP, but also with the two-handed sign LAND. The non-dominant hand holds this sign, while the dominant hand continues signing what the brother did to the land, namely that he took it and told them to get out. It is interesting to see how the perseveration of the sign LAND stops before the last two words of the utterance and the hand is put on the knee. This may be due to the fact that the NP “two girls” is a constituent that is extraposed for reasons of focus (indicated by a strong body lean forward), and that therefore does not form a syntactic and prosodic unit with the preceding signs. It could also be true, however, that this body lean makes it phonetically difficult to keep the perseveration in place, and that this is the reason for dropping the non-dominant hand. A translation of (6.20) which takes into account all the instances of simultaneity and dominance reversal would then read (italics indicate emphasis): “a sibling, a brother, of their mother, who had died, took the land and said ‘get out’ to the two girls!”

Although in the examples of complex noun phrases presented here simultaneity seems to have a semantic or syntactic function, this is not always very clear. Many instances of simultaneity in the data do not appear to be as deliberate as the ones presented in (6.19) and (6.20), and the perseveration of a sign may be held on the non-dominant hand for phonetic reasons only, such as ease of articulation. It is precisely the presence of dominance reversal that makes the intentional use of a simultaneous construction clearly visible. When perseverations of two-handed signs occur on the non-dominant hand, as in LAND in (6.20), it is less clear that they serve to clarify syntactic structure. In fact, perseverations are often held across syntactic boundaries and seem to be constrained more by prosodic boundaries or other phonological contexts, such as a subsequent two-handed sign. Investigations into the prosodic structure of ISL (Nespor and Sandler 1999; Sandler 1999a) have revealed that the non-dominant hand functions as a delineator of boundaries of the phonological word and the phonological phrase, but more research is needed into the prosodic structure of LIU before similar claims can be made.

The examples presented in this section have a very complex structure. I have not found similar complex interactions between dominance reversals and simultaneity in descriptions of other sign languages. It would appear, then, that simultaneous constructions are particularly productive and
complex among some younger native signers of LIU. The interaction of dominance reversals and simultaneity among these signers gives a very ‘two-handed’ impression of LIU. Although similar constructions may also be found in other sign languages, they have, to my knowledge, not been described.

6.9 Conclusion

This chapter has presented several examples of manual simultaneity in LIU. The examples illustrate that manual simultaneity commonly occurs in various types of constructions, but is restricted in its possible forms by a clear phonological rule that can be seen as an extension of Battison’s (1978) symmetry constraint on movement. Full simultaneity, with both hands moving at the same time, is only possible when one of the signs produced does not have inherent movement or when both hands make identical or alternating movements, as in (6.5). In all other cases, perseverations are found. This rule may well turn out to be universal, in which case the distinction between full simultaneity and perseverations, as made by Miller (1994) would be superfluous. The universality of the rule presented here is supported by descriptions from other sign languages, such as VGT. A reanalysis of examples of full simultaneity shows that these are actually well-formed under the phonological rule. It will be interesting to see whether this rule does indeed cover all instances of manual simultaneity in different sign languages, as Battison’s symmetry rule does for two-handed signs.

There does not seem to be a good reason for proposing that ‘buoys’ are different from other types of simultaneous constructions in LIU. Rather, these constructions can be seen as well-formed instances of simultaneity and are closely paralleled by structures that contain elements that would not be considered buoys. In this respect, LIU appears to differ from ASL as described by Liddell (2003). The non-dominant hand does not necessarily have the function of holding backgrounded information in LIU, as was suggested by both Miller (1994) and Engberg-Pedersen (1994). Movement is also not confined to the dominant hand in LIU.

Although the function of simultaneity is not always completely clear, some examples have been presented where simultaneity, often in combination with a dominance reversal, may help the addressee to understand the syntactic structure of complex phrases. Further research will be necessary to investigate this hypothesis. Simultaneity can also be iconic, representing two things happening at the same time on different hands. This is particularly true for classifier constructions, but examples of this use of simultaneity outside of classifier constructions were also presented, as in
(6.12). More research on dominance reversal and simultaneity, as well as research into other grammatical and discourse structures in LIU, is needed in order to verify and elaborate on the analysis presented here.

Cross-linguistically, it seems that simultaneous constructions in LIU have many characteristics in common with other sign languages in both form and function. The range of simultaneous constructions, however, appears to be wider than that described for other sign languages. In particular, LIU can use pronouns other than indexes in simultaneous constructions, something that Liddell (2003) claims is not possible in ASL. Also, although dominance reversal functions in a way that is very similar to ASL, the interaction between dominance reversal and simultaneity in LIU leads to complex constructions that I have not seen described for other sign languages. Thus, although certain simultaneous constructions in LIU are similar to those in other sign languages, there are also constructions that appear to be unique to LIU. These constructions therefore add to our understanding of both cross-linguistic restrictions on sign language structure as well as the range of variation possible within those restrictions.

Further analysis of the interaction of simultaneous constructions and phonological domains in LIU and other sign languages is needed to determine the restrictions on the range of these constructions. In addition, more in-depth descriptions of simultaneous constructions in other sign languages are necessary to determine whether the level of complexity of these constructions in LIU is unusual.