

The marking of two aspectual distinctions in Sign Language of the Netherlands (NGT)*

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This article reports on the results of a pilot study on aspect marking in Sign Language of the Netherlands (NGT). A deaf signer of NGT completed an adapted version of a questionnaire about tense, mood, and aspect marking in spoken languages (Dahl 1985). The resulting data provide the basis for a description of the manual and non-manual markers that signal continuative and habitual aspect in NGT. The results show that the main marker of the two aspectual distinctions is reduplication of the verb, accompanied by synchronous back-and-forth (continuative) and left-to-right (habitual) movements of the head and body. The findings challenge those reported in a similar study on aspectual marking by Hoiting & Slobin (2001) in two respects. Firstly, Hoiting and Slobin argue that elliptical modulation of a verb's movement is a distinctive marker of continuative and habitual aspect, but no such modulation was attested in the data. Secondly, the authors claim that, in cases in which the phonological specifications of a verb block elliptical modulation, aspect is obligatorily marked sequentially by means of the aspectual particle DOOR ('through'). However, since there was no elliptical modulation in the data, DOOR was also not attested. The results could point toward grammatical differences between different variants of NGT.

1 Introduction

Grammatical aspect expresses information about the internal temporal structure of a situation (Comrie 1976). To give some examples, perfective aspect describes a situation as a complete whole without making reference to its internal structure, imperfective aspect does make explicit reference to an event's internal structure, and habitual aspect indicates the habituality of a certain situation or action over a period of time (Comrie 1976). Spoken languages have a range of morphosyntactic strategies at their disposal to mark such different aspectual distinctions. For instance, progressive aspect, which indicates continuousness, may be marked by means of an affix, as in example (1a) from

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Quechua (Cole 1982:150) and (1b) from Babungo (Schaub 1985:218).¹ Also note that the prefix in (1b) is copied from the stem, and (1b) is therefore also an example of reduplication (indicated by a tilde). Other languages use a locative expression to indicate progressive meaning, such as Dutch (1c) (Boogaart 1991:2) and Mandarin Chinese (1d) (Ljungqvist 2003:7), while English uses a periphrastic structure with the copula *be* and a present participle, as the translations in (1) illustrate.

- (1) a. shamu-**ju**-ni. [Imbabura Quechua]
 come-PROG-1SG.PRS
 ‘I am coming.’
- b. ɲwə́ **tí**~tə̌ə. [Babungo]
 he PROG~dig.pit
 ‘He is digging a pit.’
- c. hij is **aan** het koken. [Dutch]
 he is at the cook.INF
 ‘He is cooking.’
- d. Zhangsan **zai** jieshi wenfa. [Mandarin Chinese]
 Zhangsan at explain grammar
 ‘Zhangsan is explaining the grammar.’

In this article, I present a description of the marking of two aspectual distinctions – continuative and habitual aspect – in Sign Language of the Netherlands (*Nederlandse Gebarentaal* – NGT). Both types of aspect are of the quantificational kind, i.e. they specify the frequency of occurrence of an event denoted by the verb (Hengeveld & Mackenzie 2008). Aspectual distinctions of this type are often attested in sign languages (see e.g. Klima & Bellugi 1979; Pfau, Steinbach & Woll 2012). Continuative aspect is similar to progressive aspect in that it indicates continuous action, but it puts extra emphasis on the longevity of an action, i.e. the fact that something takes place for a long time (Rathmann 2005). Habitual aspect indicates the habituality or regularity of occurrence of a certain action or event for a certain time period (Comrie 1976). As will be shown, although languages of both modalities are able to express these aspectual distinctions, the linguistic means that are employed to do so can be strikingly different.

¹ I follow the Leipzig Glossing Rules in the glossing of the examples in (1); some examples are adapted from their original sources (PROG = progressive; 1SG = first person, singular; PRS = present tense; INF = infinitive).

1.1 *The study*

In Section 1.2, I start with an explanation of several key concepts and terminology from the sign linguistics literature that are relevant to the topic of discussion. In Section 1.3, I give an overview of previous research on the marking of aspectual distinctions in sign languages. Section 1.4 discusses an article by Hoiting & Slobin (2001), which addresses aspect marking in NGT specifically. The authors make several testable claims but provide little information about the type and quantity of data that these claims are based on. An important aim of the current study is therefore to verify Hoiting and Slobin's observations by providing a description of continuative and habitual aspect marking on the basis of newly acquired data. A more detailed formulation of the goals of the investigation is presented in Section 1.5. This article reports on a pilot study involving one deaf signer of NGT, who completed a questionnaire adapted from Dahl's (1985) tense, mood and aspect questionnaire for typological research. More details regarding the methodology are discussed in Section 2. Section 3 presents a description of the manual and non-manual markers of continuative and habitual aspect that were attested in the data. The results are discussed in Section 4, in which I make an effort to offer possible explanations for the remarkable differences in the results of the current study and Hoiting and Slobin's investigation. Methodological issues are also discussed in this section. Section 5 concludes and offers suggestions for follow-up research.

1.2 *Some sign language terminology*

It is important to provide some background on sign language research and sign language-specific terminology in order to make some of the concepts discussed in the coming sections easier to follow. The three main issues that are addressed are (a) simultaneity in sign languages, (b) the use and functions of non-manuals, and (c) phonological parameters.

It is by now common knowledge that sign languages are full-fledged natural languages with their own lexicon and grammar. I have also frequently been argued that, despite the fact that signed and spoken languages use different channels for the transmission of linguistic messages, languages in both modalities must obey the same universal linguistic principles (see Sandler & Lillo-Martin 2006 for extensive discussion). Although one of the aims of sign linguistics is to uncover the similarities between manual and oral languages, much attention has also been paid to pinpointing where they differ, since the differences can be especially illuminating with regard to what parts of a

language are Language, and what parts are merely a consequence of modality.²

One obvious difference between manual and oral languages is that signers can make use of a range of articulators, including the two hands, the torso, the mouth, and the eyes and eyebrows. This allows for simultaneity in the expression of linguistic messages in sign languages. Indeed, the use of non-manual markers is abundant in sign languages, and they are used to fulfill a variety of lexical, morphological, prosodic, syntactic, and affective functions. For instance, some signs are lexically specified for a certain mouth gesture. An example from NGT is the sign REQUEST, used at the beginning of a sentence to signal a request from the signer to the addressee. The sign is obligatorily accompanied by puckered lips. Mouth gestures can also function as adverbial markers: in example (2a) from American Sign Language (Corina, Bellugi & Reilly 1999:310), the adverbial glossed as '/mm/', articulated with protruding lips, indicates pleasure or enjoyment.³ Other non-manual markers have a syntactic function. Yes/no-questions, for instance, are marked by means of raised eyebrows ('re'), as shown in the NGT example in (2b). *Wh*-questions, on the other hand, are typically marked by means of lowered eyebrows in NGT as well as other sign languages. In both cases, the non-manual marker spreads over the entire clause.

- (2) a. HER HUSBAND COOK^{/mm/}[durational] DINNER⁴ [ASL]
 'Her husband has been cooking the dinner with pleasure.'

² Note, however, that there are other possible explanations for apparent differences between signed and spoken languages, such as the relative youth of all known sign languages. In fact, sign languages are known to share many similarities with creole languages (see Adone 2012 for an overview chapter).

³ The following glossing conventions are used for the sign language examples:

- SIGN All signs are glossed in small capitals to distinguish them from spoken words.
xx Relevant non-manual markers are indicated by means of a line above the sign or signs they accompany: pf = pursed lips with or without a blowing gesture; bl = brow lowering/narrowing of the eyes; bm = body movement.
 VERB++ Plus signs indicate reduplication; each '+' represents one cycle.
 INDEX_x Pointing signs are glossed as INDEX followed by a subscript indicating whether they point to the signer (1), the addressee (2), or a present or non-present third person referent (3).

⁴ The verb COOK is additionally marked for durational aspect by means of reduplication (indicated in the square brackets), but the mouth gesture is dedicated to expressing the adverbial meaning only.

- (2) b. $\overline{\text{INDEX}_3 \text{ BOOK BUY}}^{\text{re}}$ [NGT]
 ‘Did you buy a book?’

Thus, non-manual markers fulfill a range of important functions in sign languages, and it will be shown that they also play a role in the marking of continuative and habitual aspect in NGT.

Another simultaneous marking strategy that is particularly relevant to the topic at hand is the use of reduplication. Although reduplication is also commonly used in spoken languages (see example (1b)), sign languages have the additional possibility to superimpose dynamic features, like rate of movement, onto a reduplicated sign. In fact, this is a common marking strategy of aspectual distinctions in sign languages (e.g. Klima & Bellugi 1979; Pfau et al. 2012). I come back to this in Section 1.3.

The superimposition of dynamic features affects the realization of the movement of a sign. Movement is one of four major phonological parameters in sign languages; the specification of these parameters determine the lexical form of a sign (Stokoe 1960; Klima & Bellugi 1979; Brentari 1998, among others).⁵ Movement has been argued to form the syllable nucleus of a sign and is therefore required for a sign’s well-formedness (e.g. Sandler 1989; Brentari 1998). The other three parameters are place of articulation, hand configuration, and hand orientation; their specifications are either held constant during the articulation of a sign, or they change from the beginning to the end of a sign’s movement. Handshape and orientation changes are forms of internal movement. A change in place of articulation involves a path movement. The place of articulation of a sign may be in neutral space, but it may also involve contact with the body, face, or (non-dominant) hand.

Having discussed the concepts from the sign linguistics literature that are particularly relevant to a discussion of the marking of aspectual distinctions in NGT, I now turn to an overview of previous research on aspect marking in sign languages.

1.3 *Aspect in sign languages*

Sign languages typically make use of rich aspectual systems (Pfau et al. 2012), although there are striking differences between signed and spoken languages in the ways aspect can be marked. Specifically, verbs in sign languages can be

⁵ Actually, Stokoe (1960) does not list hand orientation as a parameter, but Klima & Bellugi (1979) do. Brentari (1998) argues that the specification of hand orientation automatically results from the specification of the other parameters. In her phonological model, she also makes a distinction between the configuration of the hand(s) on the one hand, and non-manual markers on the other.

modified by means of superimposition of dynamic features such as rate and rhythm of movement, tenseness of the hand, and pauses in order to make aspectual distinctions (Klima & Bellugi 1979). In addition, non-manual components such as head movements and facial markers may play a role (e.g. Hoiting & Slobin 2001 for NGT; Bergman 1983 for Swedish Sign Language). These aspect marking strategies thus occur at the interface between morphology and phonology (Liddell 1984; Sandler 1989, 1996).

Descriptive accounts of aspectual systems are available for a number of sign languages (e.g. Sutton-Spence & Woll 1999 for British Sign Language; Bergman & Dahl 1994 for Swedish Sign Language; Zeshan 2000 for Indo-Pakistani Sign Language; Zeshan 2003 for Turkish Sign Language), although the description of aspectual inflections in American Sign Language (ASL) by Klima & Bellugi (1979) remains the most extensive of its sort. The researchers identify over a dozen different aspects, although the authors also include ‘aspects’ that do not refer to the internal temporal structure of a situation, such as adverbial modification of manner (‘slowly’). In addition, some aspectual modifications are similar to one another in meaning and form, suggesting that they might not be distinctive. Other linguists have therefore attempted to narrow down the list; the latest account is by Rathmann (2005), who lists six different aspects in ASL.⁶ Nonetheless, Klima and Bellugi’s work remains influential as it was the first to explicitly note that aspectual marking in sign languages involves the superimposition of dynamic features on verbs and predicates, demonstrating that the morphology of aspectual inflection is simultaneous rather than linear, and, importantly, grammatical rather than gestural in nature. According to Klima & Bellugi (1979), there are six features that may change under aspectual modulation. They are reduplication, evenness of tempo, tenseness in hand/arm muscles, presence of stops or holds, rate of movement, and size of movement. Continuative, iterative and habitual aspect are typically marked by means of this type of aspectual inflection in sign languages (Pfau et al. 2012).

However, aspectual modulation of a verb is only one of several strategies sign languages employ in the marking of grammatical aspect. Another strategy is the use of free morphemes or particles, which have often grammaticalized from verbs or adverbs (Pfau et al. 2012). An example is the marking of perfective/completive aspect by means of a particle glossed as FINISH in ASL (Fischer & Gough 1999), ALREADY in Israeli Sign Language (Meir 1999), and DONE in Italian Sign Language (LIS; Zucchi 2009). Example (3) illustrates the use of the sign DONE in LIS. As a main verb, DONE occurs in preverbal position

⁶ The aspects distinguished by Rathmann (2005) are continuative, iterative, habitual, hold (an event is interrupted or terminated), and conative (an event is not (yet) completed) aspect, which are realized as inflectional morphemes, and perfective aspect, which is marked by the free morpheme FINISH.

(3a) (Zucchi 2009:124), but it occurs after the predicate when it functions as an aspectual marker (3b) (Zucchi 2009:101). Note that the grammaticalization of free particles is not unique to sign languages; it is also a common mechanism for developing complex structures in isolating languages such as creoles. Sranan Tongo (Van den Berg & Aboh 2013), several varieties of Melanesian Pidgin (Siegel 2008), Guyanese Creole (Winford 1993), and Hawai'i Creole English (Roberts 1998), for instance, all have markers of perfective or completive aspect that are derived from verbs like 'finish'.

- (3) a. GIANNI CAKE DONE EAT [LIS]
 'Gianni has finished eating the cake.'
- b. GIANNI HOUSE BUY DONE
 'Gianni has bought a house.'

Non-manual markers have been found to accompany aspectually inflected verbs in some sign languages (see Hoiting & Slobin (2001) for NGT and Bergman (1983) for Swedish SL), although they are not the sole markers of aspectual distinctions. Grose (2003) argues that a head nod can function as an aspectual marker of perfectivity in ASL, accompanying either a manual aspectual marker (FINISH) or a clause-final lexical sign.

Finally, Matsuoka (1997) and Braze (2004) both observe that aspectual marking can affect word order in ASL. ASL has basic SVO constituent order, yet sentences with a verb inflected for aspect often have OSV word order. Matsuoka (1997) and Braze (2004) each provide a syntactic account. They differ slightly in the details, but both assume that aspectual inflection in ASL triggers verb raising to Asp⁰ and, consequently, object fronting. Fronting of the object targets the specifier of the AgrOP in Matsuoka's account and the specifier of the AspP in Braze's account. For both proposals, the correct word order is derived under the assumption that the AspP in ASL is head-final.

In summary, aspect marking may happen in a number of different ways in sign languages. The superimposition of dynamic features on predicates is a simultaneous process that has been observed in all sign languages studied to date. It typically marks repeated actions or events (Sandler & Lillo-Martin 2006). Aspectual particles are also found with regularity and are frequently used to indicate perfective or completive aspect, similar to what is often found in isolating languages. Finally, use of specific non-manual markers and change in constituent order may also be indicators of aspectual marking in sign languages.

1.4 Previous research on aspect in NGT

To my knowledge, Hoiting & Slobin (2001) provide the only work to date that discusses grammatical aspect in NGT. They give a description of two aspectual distinctions, which are continuative and habitual aspect. The authors define the continuative as indicating an ongoing action (e.g. ‘He keeps on working’). It is marked by “three repetitions of an elliptical modulation accompanied by pursed lips and a slight blowing gesture”. The habitual is defined as an ongoing action that occurs habitually (e.g. ‘He always works on and on’). Note that Hoiting and Slobin rather unconventionally include a sense of continuousness in their definition. Habitual aspect is marked by “a slower elliptical modulation accompanied by gaze aversion, lax lips with protruding tongue, and slowly circling head movement”. Hoiting and Slobin do not state in exact terms what they mean by elliptical modulation, but we can assume it to refer to the modification of the movement of a verb’s reduplication cycles such that the movement’s path has the form of an ellipsis.

Interestingly, Hoiting and Slobin claim that verbs that are phonologically blocked for elliptical modulation combine with the particle *DOOR* (lit. *THROUGH*), borrowed from spoken Dutch, which is modified with the modulations that otherwise accompany the verb. Two constraints may trigger this use of the *DOOR* particle (analyzed as a ‘semi-auxiliary’ in the article): internal movement and body contact. However, their analysis is exemplified by only two verbs. The verb *WORK* represents an example of a verb with internal movement, and is signed in neutral space with two ;-hands that open and close repeatedly, with the palms facing away from the signer.⁷ The verb *TRY* exemplifies a verb with body contact and is signed with the tips of the index and middle finger of a T-hand moving left and right on the side of the nose. No further examples are given, nor do the authors provide more detail about the interaction between aspectual modification and the constraints they describe. In addition, methodology is not discussed, other than that it involved several informants from the Groningen region (North East of the Netherlands). It is therefore not possible to establish how Hoiting and Slobin arrived at their analysis.

1.5 Aim of the study

The main aim of this pilot study is to reassess the claims made by Hoiting and Slobin by conducting a more systematic investigation into the marking of continuative and habitual aspect on verbs with internal movement, body contact, or without constraining features, based on newly acquired data. An additional

⁷ Note that the sign for *WORK* described by Hoiting & Slobin (2001) is mostly used in the Groningen region of the Netherlands. Signers from the other parts of the Netherlands generally use another sign for *WORK* that does not involve internal movement.

aim is to assess the methodology used in the collection of the data in order to facilitate future more large-scale research into the topic.

A deaf signer of NGT provided the data by completing a questionnaire that was designed to trigger responses with inflections for continuative and habitual aspect. Included in the questionnaire are verbs that involve body contact and internal movement, as well as a control group of verbs that have no constraining features. Section 2 discusses further details of the methodology.

2 Methodology

Data were acquired by means of a translation task from written Dutch into NGT. The task was adapted from a questionnaire previously developed by Dahl (1985) in a typological investigation on tense, mood and aspect (TMA) systems in spoken languages (Section 2.1). Sections 2.2 and 2.3 provide details about the informant and data analysis, respectively.

2.1 The questionnaire

Dahl's (1985) TMA questionnaire consists of a set of approximately 200 sentences, which language informants are meant to translate from English or an intermediary language into a target language. The target sentences are preceded by question or context sentences that are intended to trigger TMA marking in languages that have such grammatical forms available. In order to avoid transfer from one language to another, verbs and predicates in the translation sentences are capitalized and are given in their infinitive forms. Two items from the original questionnaire are shown in (4a) and (4b) (Dahl 1985:199, 202).

- (4) a. QUESTION What are you planning to do right now?
Sentence to be translated: I WRITE letters.
- b. CONTEXT Last year, the boy's father sent him
a sum of money.
Sentence to be translated: When the boy GET the money,
he BUY a present for the girl.

Although the questionnaire was originally developed for spoken language research, Bergman & Dahl (1994) employed the same questionnaire without adaptations in their investigation of TMA in Swedish Sign Language, in which they focused on how different types of reduplication can create different aspectual distinctions. They did not report any methodological difficulties.

The general format of the questionnaire was maintained for this study. However, the number of sentences was brought down to 66 in total, sentences

were translated from English to Dutch, and the task items were adapted to fit the purposes of the experiment. For instance, the original questionnaire does not include items that trigger continuative aspect, which were therefore added to the adaptation. There are five types of sentences in the questionnaire, namely standard (5a), continuative (5b), habitual (5c), filler 1 (5d), and filler 2 (5e). The fillers were included so as to obscure the purposes of the investigation. The first set of fillers consists of sentences that were meant to trigger adverbial modification of the verb (5d). The plural subjects in the second set of fillers could trigger plural marking on the noun and/or verb.

- (4) a. CONTEXT *Een man maakt een reservering
bij een restaurant.*
A man makes a reservation at a restaurant.
Sentence to be translated: *De man RESERVEREN.*
The man BOOK.
- b. CONTEXT *Een man is urenlang brieven
aan het schrijven.*
A man has been writing letters for hours.
Sentence to be translated: *De man SCHRIJVEN.*
The man WRITE.
- c. QUESTION *Wat deed de kat vroeger gewoonlijk
iedere nacht?*
What did the cat use to do every night?
Sentence to be translated: *De kat MIAUWEN.*
The cat MEOW.
- d. QUESTION *Heeft je vader het huis snel schoongemaakt?*
Has your father cleaned the house quickly?
Sentence to be translated: *Nee, mijn vader SCHOONMAKEN het huis
langzaam.*
No, my father CLEAN the house slowly.
- e. CONTEXT *Drie mannen zitten in de bioscoop
film te kijken.*
Three men are watching a movie
at the cinema.
Sentence to be translated: *De mannen KIJKEN film.*
The men WATCH [a] movie.

It is important to note that the items for habitual aspect were designed so as to trigger the traditional sense of habituality rather than the sense Hoiting and Slobin adhere to, which includes the additional notion of continuous action. It is not obvious from their data, however, that this continuous flavor is a true component of the meaning of habitual aspect in NGT. It is possible that this semantic component is actually connected to the inherent (a)telicity of a verb. A verb like WORK, for instance, is atelic and therefore lends itself well to a continuous interpretation. A verb like BUY, on the other hand, is telic and therefore cannot receive a continuous interpretation, but a habitual interpretation is in principle possible. Unfortunately, since Hoiting and Slobin give only two examples, it is not possible to establish whether their definition of habituality is justified. However, it is worth noting that the current study shows that telic verbs can be modulated for habitual aspect, although the formational properties of the modulation differ from what Hoiting and Slobin report (see further Section 3.2).

Table 1. Verbs and predicates included in the questionnaire, categorized according to features of their phonological specification that are hypothesized to block aspectual modulation.

I. No constraining features	II. Internal movement	III. Body contact
WRITE	BLUSH	TRY
SEE/WATCH	COUNT	TRANSLATE
CLEAN	TALK	HUG
BUY	BOOK	TASTE
BE-COLD	MEOW	SLEEP

Verbs were selected and classified on the basis of their phonological specification (Table 1). It is important to note, however, that many signs in NGT have various lexical forms, which is largely a result of lexical differences between the five main variants of NGT. The biggest differences are observed between the Groningen variant on the one hand, and the other four – Amsterdam, Voorburg, Rotterdam, and Sint Michielsgestel – on the other, although there is some lexical variation among these four variants as well (Schermer & Koolhof 2009). There is also a ‘standard’ lexicon of NGT, which is the result of a large project aimed at standardizing NGT that began in the late 1990s (Schermer 2003). This standard lexicon is mostly made up of signs from all five variants. In the compilation of the verb list in Table 1, I selected the standard form of the verb, unless this form originated from the Groningen variant. In those cases, I selected the Amsterdam form, which was motivated by the background of the informant. Group I in Table 1 consists of verbs or predicates that do not possess either of the constraining features described by

Hoiting and Slobin. Verbs in the second group have internal movement. In principle, internal movement can involve a handshape change or an orientation change, but since Hoiting and Slobin's example *WORK* involves the former, all verbs in group II involve a handshape change. Verbs in the third category all involve contact with some part of the body, namely the chest (*HUG*), the head (*TRY*, *TASTE*, *SLEEP*), and the non-dominant hand (*TRANSLATE*). *TRANSLATE* also involves an orientation change, and thus strictly speaking belongs to both group II and group III.

Each verb was used in each of the five sentence types unless their semantics made certain interpretations difficult or impossible to conceptualize. For instance, the questionnaire did not include a sentence that was meant to trigger continuative aspect for *BOOK* (in the sense of 'making a reservation'), as it is difficult to give an interpretation to a phrase like 'to book continuously' or 'to book on and on'. Sentences were presented in random order.

2.2 Informant

One female deaf signer of NGT (age 55) with a good command of written Dutch completed the questionnaire. The informant was born deaf in a hearing family and first learned NGT when she attended a deaf school early in life. NGT is the signer's primary language and the language she feels most comfortable with. The informant has indicated that she uses the Amsterdam variant of NGT, and that she is an active member of the Amsterdam Deaf community. The informant was instructed to give translations of the sentences in a way that fits with the question or context preceding them. The translations were recorded using Windows Movie Maker and a webcam.

2.3 Analysis

Recordings were glossed and further annotated in ELAN Linguistic Annotator (Sloetjes & Wittenburg 2008). Signs were glossed on two tiers; one for the right hand and one for the left hand. Important non-manual markers unrelated to aspect marking (e.g. headshake for negation) were annotated separately, as well as a free translation of the signed sentences in Dutch. Markers of aspect, either manual or non-manual, were coded on a separate tier. Verb durations were also measured. With regard to this, note that determining where a sign starts and ends can be a tricky business. Onset and offset of the verbs were determined at the points at which the specifications of at least two of the three static parameters (handshape, orientation, place of articulation) were distinguishable. The onset and offset of non-manual markers were also taken into account.

3 Aspect marking in NGT

Generally, verbs in task items that were meant to trigger continuative aspect show clear aspectual modulation. In contrast, habitual aspect is not marked in all of the sentences for which modulation was expected. It appears that there is a distinction between habitual present and habitual past, with only the latter being expressed in NGT. Note that I do not wish to imply by this that verbs in NGT may be inflected for tense in certain contexts. As in most sign languages, tense is not grammatically expressed in NGT; the use of ‘past’ and ‘present’ here simply refers to the time in which the event expressed in a sentence is set. Thus, the data indicate that only when the event is set in the past, habitual aspect marking may occur.

As mentioned earlier, the verbs that are represented by the glosses in Table 1 (Section 2.1) are categorized according to the phonological specifications of their lexical forms. These lexical forms were either selected from the standard lexicon or the lexicon of the Amsterdam variant of NGT, in an effort to increase the chance that the informant would use the same form. Nonetheless, the signer used several different lexicon forms, so that two verbs had to be reassigned to a different group as a consequence (Table 2). In the new list, there are seven verbs without constraining features, four with internal movement and four with body contact.

Table 2. Verbs and predicates included in the questionnaire, re-categorized on the basis of their phonological form in the actual data.

I. No constraining features	II. Internal movement	III. Body contact
WRITE	TALK	TRY
SEE/WATCH	BOOK	TRANSLATE
CLEAN	MEOW	TASTE
BUY	COUNT	SLEEP
BE-COLD		
BLUSH (II)		
HUG (III)		

In the sections below, I present a description of the manual and non-manual markers of continuative and habitual aspect that I observed in the data. I also assess the potential effects of the phonological constraints posited by Hoiting and Slobin on aspect marking on the verb.

3.1 *Continuative aspect*

Continuative aspect is consistently marked by means of a relatively slow reduplication of the verb's movement and a synchronous back-and-forth movement of the head or body. That is, every reduplication cycle is accompanied by a head or body movement, which appears to be obligatory. Other common non-manuals that may accompany the inflected verb are eyebrow raising or lowering, narrowing of the eyes, and pursed lips, which is sometimes accompanied by a blowing gesture.⁸ None of these non-manuals are obligatory and they may be overruled by lexical or affective non-manual components, although generally at least one of the non-manuals is present. Figure 1 illustrates the marking of the verb COUNT for continuative aspect.⁹ In this example, COUNT is reduplicated and accompanied by lowered eyebrows and pursed lips. Back-and-forth movement of the body is also attested, although this cannot be observed in the picture. The verbs CLEAN, WRITE, SEE, BLUSH, and HUG are modified in similar ways to express continuative aspect. All these verbs except for BLUSH (reduplicated once in the continuative sentence) already have reduplication in their citation form. However, when the verbs are marked for continuative aspect, they typically have an additional reduplication cycle compared to their standard forms, and the movement of the reduplication is slower. Indeed, a Wilcoxon signed-ranks test indicates a significantly longer duration of verbs in sentences with continuative meaning ($M = 1.18$ seconds; $Mdn = 1.22$ seconds) than in standard sentences ($M = 0.82$ seconds; $Mdn = 0.75$ seconds), $Z = 2.82$, $p = .0024$, $r = .75$.

Interestingly, use of the particle DOOR was unattested in the data. Thus, verbs with internal movement or body contact that were included in the task do not trigger use of this particle in any of the sentences. The verb TRANSLATE (group III) was not marked by the signer for unknown reasons. For the remaining four verbs – TALK (II), MEOW (II), TRY (III), and SLEEP (III) – it appears that internal movement or body contact is not a constraining factor.¹⁰ The verbs TALK (Figure 2) and MEOW, which have internal movement, were

⁸ Gökgöz (2011) similarly claims that negated clauses in Turkish Sign Language may be marked by means of a 'non-neutral brow position', i.e. eyebrow raising or lowering, which accompanies the manual negative sign or the entire clause. As pointed out in Section 1.2, non-manuals can serve a multitude of functions which may sometimes be in competition, resulting in complex interaction patterns that need more detailed research. The non-manual markers I describe in this section were found to relatively frequently appear on the inflected verb but not on the surrounding signs or on uninflected verbs, suggesting that they play some role in aspectual inflection. I leave a discussion of their exact function to future research.

⁹ The arrows in the figures indicate direction and path of the movement of a sign; double arrows indicate reduplication of the movement.

¹⁰ The translation task does not include trigger sentences for continuative aspect with the verbs BOOK (group II) and TASTE (III).

reduplicated by the signer several times in a slower tempo than in standard sentences and accompanied by synchronous back-and-forth head and body movement and several non-manuals. TRY, the verb that exemplifies the body contact constraint in Hoiting and Slobin's article, shows reduplication as well as back-and-forth body movement. The verb SLEEP, finally, presents a particularly interesting case. It is the only sign in the data set that does not have any movement in its citation form, except for a slight tilt of the head, probably due to its gestural source. Indeed, the informant produced SLEEP without manual movement in the standard sentence included in the task. However, in the continuative sentence, she added a path movement to the sign, which she subsequently reduplicated twice (Figure 3). Pursued lips with blowing gesture and narrowed eyes are also present, as well as back-and-forth head movement.



Figure 1. Continuative aspectual modulation of the verb COUNT by means of reduplication and body movement. Lowered eyebrows and pursed lips furthermore accompany the verb. The multiply arched lines indicate finger wiggle.



Figure 2. Continuative aspectual modulation of the verb TALK by means of the addition of reduplication cycles and head and body movement. Additional non-manuals accompanying the verb are narrowed eyes, raised eyebrows, and pursed lips.



Figure 3. Continuative aspectual modulation of the verb SLEEP by means of reduplication and head movement. Other non-manuals present are narrowed eyes and pursed lips with blowing gesture.

3.2 *Habitual aspect*

From the data it emerges that habitual aspect is marked in sentences situated in the past, but not in the present. Five of the fifteen sentences with habitual meaning included in the questionnaire are situated in the past; these are clearly marked by reduplication and a variety of non-markers (discussed below). The verbs in the ten sentences that are set in the present, however, do not differ in the way that they are articulated from their counterparts in standard sentences. This is most clearly observed in verbs that do not have reduplication in their citation forms (WATCH, HUG, BUY): they are also not reduplicated in the habitual sentences that are set in the present. In contrast, the same verbs are aspectually modulated in the continuative sentences, so it is not the case that aspectual modulation is constrained.

From the five sentences with modulated verbs it can be observed that reduplication and synchronous left-to-right head and/or body movement are clear hallmarks of habitual aspect marking. No differences in tempo of reduplication is attested between verbs inflected for habitual aspect and verbs in standard sentences that have reduplication in their citation form. Elliptical modulation is also not attested. The non-manual markers that optionally accompany verbs inflected for continuative aspect – brow raising or lowering, narrowed eyes, and pursed lips – can also signal habitual aspect. In other words, the only qualitative difference between continuative and habitual aspect marking appears to be the direction of the head and body movements and a slight difference in tempo of the reduplication.

None of the verbs that involve body contact or internal movement co-occur with DOOR, thus the constraints stated by Hoiting and Slobin are again not operative. Nonetheless, it appears that there is one verb in the list, TRANSLATE,

which cannot be inflected for aspect. As noted before, TRANSLATE is not marked in the continuative sentence. In the habitual sentence, the signer uses a sequential marking strategy rather than modulation of the verb. However, the informant does not use the particle DOOR, but adds another verb that receives aspectual modulation instead of TRANSLATE (6).¹¹ The verb WRITE in (6) is marked by body movement synchronous with the reduplication cycles of the verb and accompanied by pursed lips and narrowed eyes. Importantly, the prompt in the questionnaire does not include the verb *write*, thus (6) is not an example of transfer. Figure 4 shows video stills of the sequence TRANSLATE WRITE. The verb TRANSLATE is signed by placing a Y-hand on the non-dominant hand's palm and subsequently turning the dominant hand 180° so that its palm ends up facing upward instead of downward. Thus, TRANSLATE does not have path movement, its beginning and end locations are both signed on the body, and there is an internal movement in the form of an orientation change. WRITE, on the other hand, has no internal movement but a path movement that does not have body-anchored beginning or end points.

- (6) dh: AFTER LUNCH [NGT]
ndh: PAST INDEX₁ BROTHER INDEX₃ ALWAYS
bl, pf, bm
dh: TEXT TRANSLATE WRITE+++
ndh: TEXT TRANSLATE WRITE
‘In the past my brother always used to translate a text after lunch.’

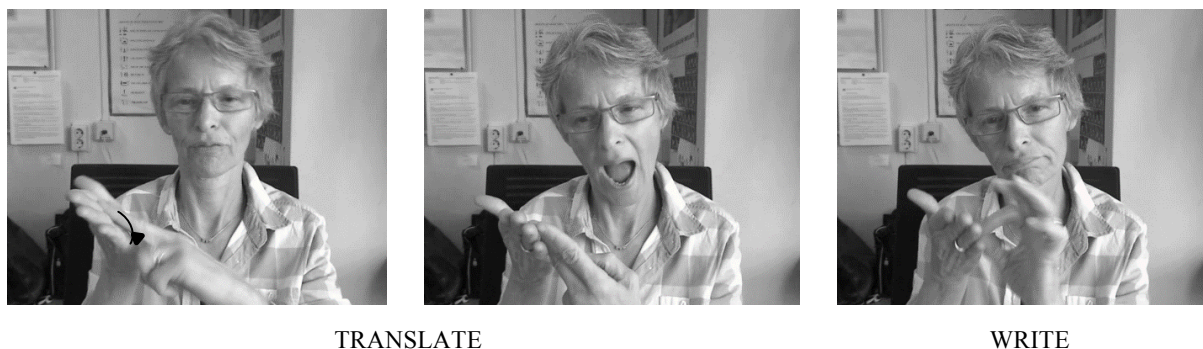


Figure 4. Sequence of two verbs. The verb TRANSLATE is not marked for continuative aspect. Instead, the immediately following verb WRITE is marked by means of reduplication and body movement, and accompanied by several facial markers.

A striking example involving a verb without reduplication in its citation form is the habitual aspect marking of the verb BOOK ('make a reservation'). BOOK has a

¹¹ ‘dh’ and ‘ndh’ in example (6) stand for dominant hand and non-dominant hand, respectively.

handshape change and a downward path movement, as shown in Figure 5. For this verb, the difference between its standard form and a form modulated for habitual aspect is obvious: it is reduplicated three times in the sentence with habitual meaning, with each cycle being accompanied by a left-to-right body movement. One such a cycle is illustrated in Figure 5. It is clear from the example that the complex movement, which includes both a path movement and an internal movement, does not form a constraint against habitual aspect marking.



Figure 5. Beginning and end configurations of the sign BOOK. The sequence was signed three times in a row, accompanied by left-to-right body movement, to mark habitual aspect.

The signer also translated the context sentence in the task item with the verb BOOK, which led to another interesting example of inflection for habitual aspect (7).

- (7) PAST EVERY WEEK WEEKLY INDEX₃ SISTER ^{bm, pf} OUT[^]EAT+++ [NGT]
 ‘In the past, my sister used to go out for dinner every week.’

The sequence OUT EAT (see also Figure 8) is borrowed from the Dutch phrase *uit eten* (‘(go) out for dinner’). In NGT, the signs form the compound verb OUT[^]EAT (Figure 6). Interestingly, the entire compound verb is reduplicated by the signer. The reduplication cycles are characteristically accompanied with left-to-right body movement. Pursued lips are also attested. Again, it is clear that aspect marking is not constrained by internal movement. In addition, the example provides a good demonstration that elliptical modulation is not a marker of aspect in the data; an elliptical movement would be impossible in a compound verb like OUT[^]EAT.

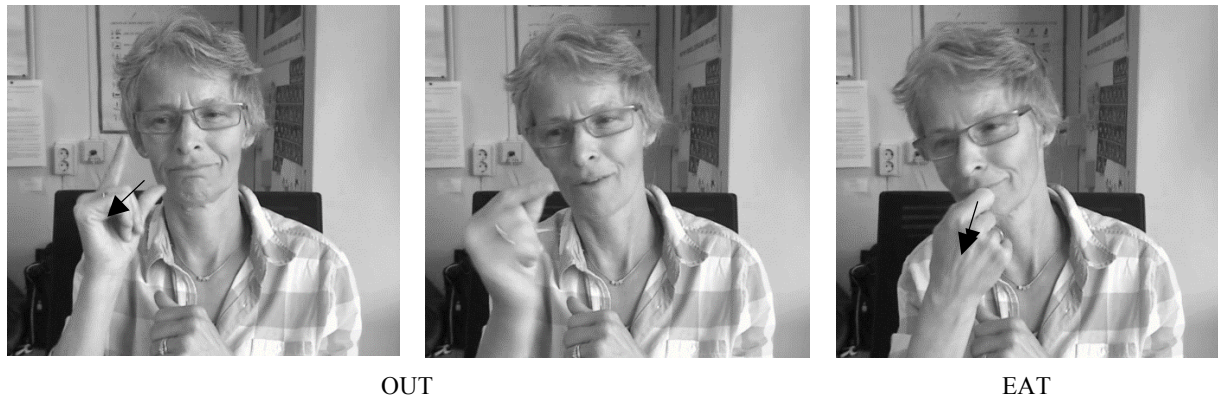


Figure 6. The ‘compound verb’ OUT^{EAT}. The sequence is reduplicated twice and marked by left-to-right body movement.

3.3 Interim summary

In conclusion, past habitual and continuative aspect are marked in a variety of ways in NGT. Firstly, reduplication of a sign, independent of whether reduplication is part of the citation form of a verb, is attested in all examples and thus obligatory. However, contrary to Hoiting and Slobin’s claims, elliptical modulation of movement does not occur in the data. Instead, what seems to be a distinguishing marker of continuative and habitual aspect is back-and-forth and left-to-right movement of the body, respectively: all examples show this type of movement. Crucially, these body movements do not occur in the articulation of verbs in standard sentences with reduplication in their citation forms. Finally, there are a number of optional non-manuals that may accompany verbs that are inflected for aspect, namely pursed lips, narrowed eyes, and lowered eyebrows. Verbs with body contact or internal movement are generally inflected without any problems, the only exception being TRANSLATE, which is unmarked in the continuative and habitual sentences. In the latter, the marking appears on the verb WRITE, which was added by the signer. The particle DOOR, however, is not attested in the data.

4 Discussion

It is evident from the discussion of the data above that there are significant differences between the aspectual markers reported on here and in Hoiting and Slobin’s study. The features of which Hoiting and Slobin claim that they block aspectual modulation are found not to be constraining factors on aspect marking in the data acquired for this pilot study. In Section 4.1, I discuss the differences between the two studies in more depth, and I consider whether there are constraints other than those mentioned by Hoiting and Slobin that may affect the expression of aspectual distinctions in NGT. In Section 4.2, I speculate about whether grammatical differences between variants of NGT could be a potential

explanation for the deviating results. Finally, since this article reports on a pilot study, I devote some attention to methodological issues in Section 4.3. This discussion may help guide future research into the topic.

4.1 Constraints on aspectual marking?

Analysis of the data points to some obvious differences to the observations made by Hoiting & Slobin (2001). Most crucially, elliptical modulation is not attested in the present study. Although reduplication is obligatory for both continuative and habitual aspect marking, there is no difference in the quality of the reduplication compared to standard reduplicated signs, apart from a slower tempo of the reduplication in continuative aspect marking. The results also indicate that a crucial distinguishing feature is back-and-forth (continuative) or left-to-right (past habitual) body and head movement. Such movements are not reported by Hoiting and Slobin.

The fact that elliptical modulation does not occur in the data also seems to explain why there are no instances of the particle DOOR, since Hoiting and Slobin specifically state that verbs with internal movement or body contact block elliptical modulation, which triggers the use of such a particle.¹² Given the lack of elliptical modulation in the data gathered in the pilot study, internal movement and body contact are no longer constraining factors in the expression of continuative and habitual aspect. The features do not block reduplication or head and body movements, which were found to be the crucial distinguishing markers of both aspectual distinctions in the data.

However, there is one counterexample that shows that at least in some cases aspectual modulation cannot occur on the verb. TRANSLATE apparently cannot be inflected for aspect. In one of the task items, the signer used a construction with TRANSLATE and another verb, WRITE, which was inflected for habitual aspect instead. WRITE thus behaves similarly to the way Hoiting and Slobin describe the particle DOOR behaves: it appears immediately after the verb and it receives the markings for habitual aspect. While it is unknown why the signer opted for the addition of another verb to the sentence, rather than the particle DOOR, it seems clear enough that this sequential strategy was employed

¹² One could argue whether it is indeed the case that internal movement or body contact blocks elliptical modulation. The examples Hoiting and Slobin provide (WORK and TRY) seem to have another thing in common: they lack path movement. Many verbs, however, have both internal movement or body contact *and* a path movement (e.g. BOOK in Figure 5) and it is unclear why elliptical modulation could not be superimposed on such verbs. In other words, perhaps lack of path movement blocks elliptical modulation rather than the constraints given by Hoiting and Slobin. However, this is only speculation at this point, since Hoiting and Slobin do not give enough examples to verify this hypothesis, and elliptical modulation is not attested in the current study.

by the signer because a simultaneous strategy – aspectual modulation of TRANSLATE – is somehow constrained. This intuition is strengthened by the fact that TRANSLATE is also not marked for aspect in the continuative sentence. Perhaps, then, there is some other type of feature that constrains aspectual marking for this verb. This feature could be phonological in nature: TRANSLATE is the only verb in the data set that involves an orientation change. This is a form of internal movement, but not of the type that is exemplified by the verb WORK in Hoiting and Slobin's study, which involves a handshape change. Other verbs that have a change in orientation need to be studied in order to test whether orientation change constrains aspectual inflection. Another possibility is that there are semantic factors that constrain the aspectual modulation of the verb. As can be observed from Figure 4, TRANSLATE is signed with a Y-hand that turns 180° on the non-dominant hand's palm; an iconically motivated representation of switching from one language to another. Potentially, reduplication of TRANSLATE leads to the unintended meaning of translating back-and-forth between two languages. Thus, the interaction between semantics and phonology could restrict the aspectual inflection of TRANSLATE. This is, however, a difficult prediction to test, since it is unlikely that there are many verbs that become ambiguous under reduplication.

In any case, a defining characteristic of aspectual inflection is the use of reduplication. Even SLEEP, which does not have movement in its citation form due to its gestural roots, is reduplicated. To be more precise, the informant added a path movement to the verb in order for aspectual modulation to be able to occur. Note that this kind of movement epenthesis, the addition of a movement segment, is not uncommon in sign languages. For instance, epenthesis in signs that lack movement in their underlying form has been observed in American Sign Language (Brentari 1998) and Italian Sign Language (Geraci 2009).¹³ Usually, movement epenthesis occurs in order to make a sign phonologically well-formed, that is, a sign is generally required to have movement. In the example with SLEEP, on the other hand, epenthesis occurs so that the verb can receive the appropriate morphological marking.¹⁴

In conclusion, internal movement and body contact do not form constraints against aspectual modulation of verbs in the NGT data investigated for this pilot study, in all likelihood because elliptical modulation is also not

¹³ The underlying form of a sign can be observed when it is used in compound forms: signs with lexically specified reduplication keep their reduplication, while signs without it appear in their bare forms.

¹⁴ The informant seems to have used another strategy to ensure well-formedness in the standard sentence with SLEEP. The signer added a copy of a subject pronominal sign directly after the verb, which may be considered to be an instance of cliticization. The interpolation movement between the verb and the pointing sign may then function as the syllable nucleus.

attested. What seems to be a necessity is that a verb can be reduplicated. However, this is a requirement that is easily satisfied, since signs with movement can usually be reduplicated without problems. In the case of SLEEP, a movement was even added to the verb in order to make aspectual inflection possible. Nonetheless, it seems that phonological or semantic factors have played a role in preventing reduplication of TRANSLATE, although these suggestions are only tentative and need to be backed up with more examples in the future.

4.2 Grammatical differences between NGT variants?

The question remains what underlies the substantial differences reported in this study and Hoiting and Slobin's article. Since the description in Section 3 is based on data from one informant, it is in principle possible that the informant in this investigation simply has developed her own way of marking aspect. This is, however, an unsatisfactory conclusion, since it would imply that the informant is a home signer or does not have regular contact with other members of the Deaf community. Clearly, this is not the case, since the signer has learnt NGT early in life and it has been her primary language ever since. In addition, she is an active member of the Deaf community in Amsterdam. It would be highly unexpected to find that the informant uses a grammatical marking strategy that is unknown to other members of the community.

The explanation that I would like to offer is that signers from different regions in the Netherlands, that is, users of different variants of NGT, mark continuative and habitual aspect in different ways. As I pointed out in Section 2.1, there are several variants of NGT, but the Groningen variant differs most substantially from all the other ones. It is usually assumed that the differences are limited to the lexicon, and indeed, there are numerous signs that are only used in Groningen while the rest of the Netherlands uses another form. However, the comparison of the findings presented in Hoiting & Slobin (2001) with those of the current pilot study could point at grammatical differences between the Groningen and Amsterdam variants of NGT.

As far as I am aware, no other study to date has reported on grammatical differences between different variants of NGT, making this the first study to make such a claim. Of course, it is not possible to draw any definitive conclusions on the basis of data from only one informant; a more systematic investigation into the way signers of different variants of NGT mark aspectual distinctions is necessary.

4.3 Methodological issues

The questionnaire on which the one in this study is based had been used previously in the investigation of aspect marking in sign languages. Bergman &

Dahl (1994) used Dahl's (1985) TMA questionnaire in unchanged form in a study of the qualitative properties of reduplication as a marker of different aspectual and adverbial distinctions in Swedish Sign Language. One informant participated in the study. While the authors mention that collecting data with Dahl's (1985) questionnaire for a signed language in particular "involved special problems" (Bergman & Dahl 1994:397), they do not discuss the methodological challenges they faced at any point in the article. They do, however, present a fairly detailed and sophisticated analysis of reduplication patterns, which suggests that they did not encounter substantial obstacles in the collection and interpretation of the data.

However, there were several issues pertaining to the format of the questionnaire in the current study that are worth discussing. Firstly, the informant indicated that it felt counterintuitive to her to translate the target sentence only. Before the start of the task, the specific instruction was given to use the information provided in the question and context sentences in the translation of the target sentence, but to only translate the target sentence, cf. Dahl (1985). Despite the instructions, the signer apparently ignored the introduction sentences at first, as evidenced by the lack of aspectual modulation in a number of sentences for which marking was expected. Eventually, the first few sentences were re-recorded, and the informant was permitted to add the question or context sentences to her translations, which she indicated felt more natural. In some cases, this resulted in additional data that could be used for analysis (e.g. the case of OUT^{EAT}).

An additional factor that appears to have caused confusion is the use of capital letters for the uninflected target verbs in the translation sentences. Signs, of course, are typically glossed in capital or small capital letters, and many Deaf individuals are familiar with this way of annotating signs. The informant, who is a teacher of NGT, is certainly aware of this convention. A revised version of the questionnaire, therefore, should mark target verbs in a different way. Alternatively, in research focusing solely on aspectual distinctions, the inflected form may simply be given in the target sentences, given that Dutch verbs generally do not inflect for aspect.¹⁵

Obviously, more participants are needed in order to gain more insight into the way habitual and continuative aspect are marked by signers of different variants of NGT. In addition, a future version of the questionnaire should include a larger set of verbs with various phonological specifications in order to further investigate the interaction between the phonological form of verbs and the realization of aspectual marking.

¹⁵ Aspect is mostly expressed through periphrastic constructions.

5 Conclusions

The data presented in this pilot study show that continuative and past habitual aspect are marked by means of reduplication of the verb and synchronous body and head movement. The direction of these movements differs for the two aspectual distinctions; for continuative aspect marking, a back-and-forth movement is observed, while past habitual aspect is marked by means of left-to-right movement. To my knowledge, no other studies have reported on the use of such body movements in the marking of aspectual distinctions. Other non-manuals that may accompany verbs inflected for aspect are narrowed eyes, lowered eyebrows, and pursed lips, although all of these are optional.

The description above differs from Hoiting & Slobin's (2001), who claim that elliptical modulation of the reduplicated movement of a verb is an important marker for both aspects (although they adhere to a slightly different definition of habitual aspect). No such modulation was found in the data. This might point toward grammatical differences between the Groningen and Amsterdam variants of NGT, which would be an exciting finding, since differences between the NGT variants were previously thought to be limited to the lexicon. Future research is needed in order to confirm this hypothesis.

Since elliptical modulation was not attested in the data, a blocking effect was also not observed for verbs with internal movement or body contact. As a result, no use of the particle DOOR was attested. All of the verbs were able to be inflected for aspect, except for TRANSLATE. It cannot be said with certainty why this is the case, but it seems plausible that reduplication leads to the unintended interpretation of back-and-forth translating, due to the iconically motivated form of the verb.

In conclusion, the results of the pilot study and the suggestions for improvement of the questionnaire may help guide future research into aspectual marking in NGT. The findings have also led to the formulation of a testable hypothesis, namely that there are grammatical differences between different variants of NGT.

References

- Adone, D. 2012. Language emergence and creolization. In R. Pfau, M. Steinbach & B. Woll (eds.), *Sign language. An International Handbook*. Berlin: De Gruyter Mouton, 862–888.
- Berg, M.C. van den & E.O. Aboh. 2013. Done already? A comparison of completive markers in the Gbe languages and Sranan Tongo. *Lingua* 12: 150–172.
- Brentari, D. 1998. *A Prosodic Model of Sign Language Phonology*. Cambridge, MA: MIT Press.

- Bergman, B. 1983. Verbs and adjectives: Morphological processes in Swedish Sign Language. In J. Kyle & B. Woll (eds.), *Language in Sign: An International Perspective on Sign Language*. London: Croom Helm, 3–9.
- Bergman, B. & Ö. Dahl. 1994. Ideophones in sign language? The place of reduplication in the tense-aspect system of Swedish Sign Language. In C. Bache, H. Basbøll & C.-E. Lindberg (eds.), *Tense, Aspect and Action: Empirical and Theoretical Contributions to Language Typology*. Berlin: Mouton de Gruyter, 397–422.
- Boogaart, R. 1991. “Progressive aspect” in Dutch. *Linguistics in the Netherlands 1991*, 1–9.
- Braze, D. 2004. Aspectual inflection, verb raising and object fronting in American Sign Language. *Lingua* 114: 29–58.
- Cole, P. 1982. *Imbabura Quechua*. Amsterdam: North-Holland Publishing Company.
- Comrie, B. 1976. *Aspect: An Introduction to the Study of Verbal Aspect and Related Problems*. Cambridge: Cambridge University Press.
- Corina, D., U. Bellugi & J. Reilly. 1999. Neuropsychological studies of linguistic and affective facial expressions in deaf signers. *Language and Speech* 42: 307–331.
- Dahl, Ö. 1985. *Tense and Aspect Systems*. Oxford: Blackwell.
- Fischer, S. & B. Gough. 1999. Some unfinished thoughts on FINISH. *Sign Language & Linguistics* 2(1): 67–77.
- Geraci, C. 2009. Epenthesis in Italian Sign Language. *Sign Language & Linguistics* 12(1): 3–51.
- Gökgöz, K. 2011. Negation in Turkish Sign Language: The syntax of nonmanual markers. *Sign Language & Linguistics* 14(1): 49–75.
- Grose, D.R. 2003. *The Perfect Tenses in American Sign Language: Nonmanually Marked Compound Tenses*. MA Thesis, Purdue University, West Lafayette.
- Hengeveld, K. & J.L. Mackenzie. 2008. *Functional Discourse Grammar: A Typologically-Based Theory of Language Structure*. Oxford: Oxford University Press.
- Hoiting, N. & D.I. Slobin 2001. Typological and modality constraints on borrowing: Examples from the Sign Language of the Netherlands. In D. Brentari (ed.), *Foreign Vocabulary in Sign Languages. A Cross-linguistic Investigation of Word Formation*. Mahwah, NJ: Erlbaum, 121–137.
- Klima, E.S & U. Bellugi. 1979. *The Signs of Language*. Cambridge, MA: Harvard University Press.
- Liddell, S.K. 1984. Unrealized inceptive aspect in American Sign Language: Feature insertion in syllabic frames. *Chicago Linguistics Society* 20: 257–270.
- Ljungqvist, M. 2003. *Aspect, Tense and Mood: Context Dependency and the Marker LE in Mandarin Chinese*. PhD dissertation, Lund University.
- Matsuoka, K. 1997. Verb raising in American Sign Language. *Lingua* 103: 127–149.
- Meir, I. 1999. A perfect marker in Israeli Sign Language. *Sign Language & Linguistics* 2(1): 43–62.
- Pfau, R., M. Steinbach & B. Woll. 2012. Tense, aspect, and modality. In R. Pfau, M. Steinbach & B. Woll (eds.), *Sign Language. An International Handbook*. Berlin: De Gruyter Mouton, 186–204.
- Rathmann, C. 2005. *Event Structure in American Sign Language*. PhD dissertation, University of Texas at Austin.
- Roberts, S.J. 1998. The role of diffusion in the genesis of Hawaiian Creole. *Language* 74(1): 1–39.

- Sandler, W. 1989. *Phonological Representation of the Sign: Linearity and Nonlinearity in ASL Phonology*. Dordrecht: Foris.
- Sandler, W. 1996. Phonological features and feature classes: The case of movements in sign language. *Lingua* 98: 197–220.
- Sandler, W. & D. Lillo-Martin. 2006. *Sign Language and Linguistic Universals*. Cambridge: Cambridge University Press.
- Schaub, W. 1985. *Babungo*. London: Croom Helm Descriptive Grammars.
- Schermer, T. 2003. Standaardisatie en nu? *Van Horen Zeggen* 44(1): 15–19.
- Schermer, T. & C. Koolhof. 2009. *Van Dale Basiswoordenboek Nederlandse Gebarentaal*. Utrecht: Van Dale.
- Siegel, J. 2008. *The Emergence of Pidgin and Creole Languages*. Oxford: Oxford University Press.
- Sloetjes, H. & P. Wittenburg 2008. Annotation by category – ELAN and ISO DCR. In *Proceedings of the 6th International Conference on Language Resources and Evaluation (LREC 2008)*.
- Stokoe, W.C. 1960. Sign language structure: An outline of the visual communication systems of the American deaf. *Studies in Linguistics Occasional Papers* 8. Buffalo: University of Buffalo Press [Re-issued 2005, *Journal of Deaf Studies and Deaf Education* 10(1): 3–37].
- Sutton-Spence, R. & B. Woll. 1999. *The Linguistics of British Sign Language*. Cambridge: Cambridge University Press.
- Winford, D. 1993. *Predication in Caribbean Creoles*. Amsterdam: John Benjamins.
- Zeshan, U. 2000. *Sign Language in Indo-Pakistan. A Description of a Signed Language*. Amsterdam: John Benjamins.
- Zeshan, U. 2003. Aspects of Türk İşaret Dili (Turkish Sign Language). *Sign Language & Linguistics* 6(1): 43–75.
- Zucchi, S. 2009. Along the time line: Tense and time adverbs in Italian Sign Language. *Natural Language Semantics* 17: 99–139.

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