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Signs of the arctic: Typological aspects of Inuit Sign Language

Schuit, J.M.

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2. Selected aspects of IUR grammar

In Chapters 3 and 4, selected aspects of the lexicon and morphosyntax of IUR will be discussed in detail. Obviously, there are numerous other phenomena that would deserve a detailed treatment but providing an extensive overview of the grammatical system of IUR is outside the scope of this thesis. Nevertheless, in this chapter, a less detailed description of some other aspects of the phonology, morphology and syntax of IUR is provided. The choice of topics is motivated by (i) the availability of sufficient data to allow for analysis and comparison and (ii) the cross-linguistic relevance of the topic for the field of sign language typology. In section 2.1, aspects of the phonological system of IUR are described. In section 2.2, I turn to a morphosyntactic issue, the pluralisation of nouns. This is followed by a discussion of the realisation of negation in section 2.3 and conclusions in section 2.4.

2.1. Phonological aspects

Vowels and consonants are the phonological building blocks of words. Also for signs a sub-lexical level can be identified. The relevant building blocks have been called parameters, and most researchers adopt the distinction of handshape, orientation, movement, and location, as first proposed by Stokoe (1960). Many researchers also take non-manual elements into account when describing the phonological structure of signs. This gives us five different parameters that form a sign.

Several phonological models have been proposed for the analysis of signs, and it is beyond the scope of this thesis discuss them all (see Sandler and Lillo-Martin (2006) for an overview). Since most attention will be given to the handshape parameter in the following section, a few words need to be said regarding this parameter. First, it should be clear that sign languages differ in the number and types of handshapes used. Second, a handshape is usually described on the basis of selected fingers and their position (open, closed, bent, curved). Selected fingers are those that are active: they may make contact with a location on the body, they may move, and/or they may open or close, thus creating a dynamic or changing handshape.

Although it is not my aim to provide a phonological analysis of IUR here, a few notes have to be made about phonological descriptions of other sign languages. In particular, I would like to point out differences found between urban and rural sign languages. When contrasted with urban sign languages, common characteristics of the phonology of rural sign languages include a relatively small set of handshapes, a relatively large signing space, and a manifestation of articulators other than the hands (Nyst 2012). These three characteristics are briefly addressed below, before examining them for IUR in sections 2.1.1 to 2.1.3.

Rural sign languages appear to have a small set of handshapes compared to urban sign languages. For instance, analysing AdaSL phonologically, and using the same approach as Van der Kooij (2002) used for NGT, Nyst (2007) identified only seven phonemic handshapes for AdaSL, while Van der Kooij proposed 31 for NGT. A similar finding has
been reported for Yolngu Sign Language (YSL, Bauer 2012). However, no explanations for these differences have been offered, and the attested variation should thus be seen as linguistic diversity.

Many studies of rural sign language have noticed that the size of the signing space tends to be larger than in urban sign languages. One reason for a larger signing space is the fact that more locations are used, including locations that are not commonly used in urban sign languages. In Kata Kolok, for instance, signs may be located on the buttocks, on the crotch and on the tongue (Marsaja 2008). In AdaSL, these locations are used as well; in addition, signs may be articulated on the back, the knee, and even on the foot (Nyst 2007). Furthermore, due to increased arm extension, signs have a larger amplitude compared to urban sign languages in both these languages.

A third phenomenon often found in rural sign languages is the large proportion of multi-channelled signs. These are signs that involve other articulators besides the hands, such as the face, the leg, or even the body as a whole. In AdaSL, for instance, many signs are made with body-parts other than the hands. For example, the head as a whole is active in the sign LIZARD (nodding movement), while REFUSE is articulated with the elbow (Nyst 2007). Washabaugh (1986:56) compared PISL to ASL, and found that 36.5% of its lexicon involves non-manual elements, compared to 1.9% in ASL. Still, rural sign languages also show clear differences, for instance, when it comes to the use of mouthings. AdaSL, on the one hand, makes extensive use of mouthings, for instance, in the distinction of BLACK, WHITE, and RED, which are manually identical signs. Kata Kolok, on the other hand, does not make use of mouthings (Marsaja 2008:157).

As handshape is the most interesting parameter from a cross-linguistic perspective, IUR handshapes are discussed in 2.1.1. The use of locations is dealt with in 2.1.3, while the non-manual parameter is discussed in 2.1.2. A summary and discussion of my findings are given in 2.1.4.

2.1.1. Handshapes

In the following sections, I consider handshapes in IUR. First, I provide an overview of the attested phonetic handshapes in 2.1.1.1, and then turn to a discussion of allophonic handshapes in 2.1.1.2. In 2.1.1.3, I briefly address the issue of markedness.

2.1.1.1. Phonetic handshapes

At least 33 different handshapes have been identified in the IUR data. They are presented by means of stills, taken from the video data, in Table 2.1. Some were difficult to capture from the video data, and in those cases, a picture of the handshape in isolation is used instead. In some cases, the background was adapted to be as neutral as possible. Below each picture, the corresponding handshape from the handshape font (Tang 2000) is presented, which is used to refer to these handshapes in the text if needed (“n/a” means that the respective handshape is not included in the font).
The handshapes are presented based on the selected fingers. The thumb is not considered a finger, and the opposition or selection of the thumb is not considered a separate feature in the table (i.e. the \( \hat{\text{a}} \)-hand, for instance, appears in the same row as the \( \hat{\text{e}} \)-hand).

**Table 2.1: Handshapes in IUR.**

<table>
<thead>
<tr>
<th>I. All fingers selected and closed, possible thumb selected</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Handshape 1" /> <img src="image2" alt="Handshape 2" /> <img src="image3" alt="Handshape 3" /> <img src="image4" alt="Handshape 4" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II. All fingers selected and joined</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Handshape 1" /> <img src="image2" alt="Handshape 2" /> <img src="image3" alt="Handshape 3" /> <img src="image4" alt="Handshape 4" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>III. All fingers selected and spread</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Handshape 1" /> <img src="image2" alt="Handshape 2" /> <img src="image3" alt="Handshape 3" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IV. All fingers selected and curved</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Handshape 1" /> <img src="image2" alt="Handshape 2" /> <img src="image4" alt="Handshape 3" /></td>
</tr>
</tbody>
</table>
Table 2.1: Handshapes in IUR (continued).

<table>
<thead>
<tr>
<th>V. Index finger selected</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
</tr>
<tr>
<td><img src="image2.png" alt="Image" /></td>
</tr>
<tr>
<td><img src="image3.png" alt="Image" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VI. Index finger and thumb selected, non-selected fingers open or closed</th>
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</thead>
<tbody>
<tr>
<td><img src="image4.png" alt="Image" /></td>
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<tr>
<td><img src="image5.png" alt="Image" /></td>
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<td><img src="image6.png" alt="Image" /></td>
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<td><img src="image7.png" alt="Image" /></td>
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<td><img src="image8.png" alt="Image" /></td>
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<tr>
<td><img src="image9.png" alt="Image" /></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>VII. Index finger and middle finger selected</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image10.png" alt="Image" /></td>
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<tr>
<td><img src="image11.png" alt="Image" /></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>VIII. Remaining handshapes</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image12.png" alt="Image" /></td>
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<tr>
<td><img src="image13.png" alt="Image" /></td>
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<td><img src="image14.png" alt="Image" /></td>
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<td><img src="image15.png" alt="Image" /></td>
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<td><img src="image16.png" alt="Image" /></td>
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<td><img src="image17.png" alt="Image" /></td>
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<td><img src="image18.png" alt="Image" /></td>
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<td><img src="image19.png" alt="Image" /></td>
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<td><img src="image20.png" alt="Image" /></td>
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<td><img src="image21.png" alt="Image" /></td>
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<td><img src="image22.png" alt="Image" /></td>
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<tr>
<td><img src="image23.png" alt="Image" /></td>
</tr>
</tbody>
</table>

No thorough phonological analysis has been undertaken, and it is therefore possible – and actually quite likely – that some of these 33 handshapes are allophones of one underlying phoneme. Some appear allophonic due to their appearance in different occurrences of the same sign, without changing the meaning of the sign. As no signs were found that differ in only the handshape (i.e. minimal pairs), it was difficult to establish phonological status on the basis of the existing data.
2.1.1.2. Allophones

One feature that is found in several of the handshape groups, and which appears to create allophonic handshapes, is the position of the thumb in relation to the fingers. For instance, the flat hand, which is characterised by the handshape features [all] and [open], has three phonetic forms that differ in the position of the thumb: \( \hat{\mathbf{a}} \) (joined), \( \hat{\mathbf{e}} \) (extended), and \( \hat{\mathbf{w}} \) (opposed). These forms appear to be in free variation, and do not change the meaning of the signs in which they occur. However, only the form with the opposed thumb is observed when the radial side of the hand makes contact with the body, as for instance in the sign TROUT (see Figure 2.5.b). Similarly, the \( \hat{\mathbf{a}} \) and the \( \hat{\mathbf{e}} \)-handshapes differ only in the position of the thumb, and occur interchangeably in the same signs. In contrast, the form with extended thumb (\( \hat{\mathbf{w}} \)) is not used interchangeably. This handshape is used in the signs BAD and GOOD, and the forms with joined and opposed thumb are not used in these signs (most probably because these signs are lexicalised emblematic gestures). For now, I consider these sets of handshapes to be allophonic handshapes. That is, the \( \hat{\mathbf{a}} \)-, \( \hat{\mathbf{e}} \)- and \( \hat{\mathbf{w}} \)-hands are allophones of the \( \hat{\mathbf{a}} \)-handshape, and the \( \hat{\mathbf{a}} \) and the \( \hat{\mathbf{e}} \)-hands are allophones of the \( \hat{\mathbf{w}} \)-handshape.

Another feature that is a candidate for the creation of allophonic handshapes is the feature [curved]. As handshapes in IUR are generally rather lax, however, handshapes that differ from each other with respect to this feature have not been included in the table, since it is difficult to determine whether a handshape is lax or curved. Consequently, the handshapes in Figure 2.1 may either be considered curved handshapes or lax handshapes. For now, these are seen as lax forms of other handshapes (\( \hat{\mathbf{a}} \), \( \hat{\mathbf{e}} \) and \( \hat{\mathbf{w}} \), respectively).

![Figure 2.1: IUR curved or lax handshapes.](image)

A final feature in which handshapes in IUR may differ is the degree of opening between the fingers and the thumb. This feature distinguishes the \( \mathbf{\overline{a}} \)- and the \( \mathbf{\overline{e}} \)-handshapes, and the \( \mathbf{\overline{w}} \)- and \( \mathbf{\overline{a}} \)-handshapes. The first two handshapes only occur in the sign TALK, while the second pair was only found in the sign HATE. Both signs involve hand-internal movement, repeated closing of the hand in TALK, and single opening movement in HATE. Future research has to reveal whether the handshapes within a pair should be considered allophones of the same underlying form.
2.1.1.3. Markedness

Previous studies on various (urban and rural) sign languages have identified a set of unmarked handshapes which occur in every sign language described so far. Criteria for markedness are *inter alia* the frequency of occurrence, the ease of articulation, and the path of acquisition; unmarked handshapes are frequent, easy to articulate and acquired early (Battison 1978). According to a further criterion, unmarked handshapes may occur on the non-dominant hand in non-symmetrical signs. These are two-handed signs in which the non-dominant hand does not move but acts as place of articulation for the dominant hand. Although slightly different sets have been proposed for different sign languages, six handshapes are included in all sets. These are \[, \], \[\], \[\], \[\], and \[\]. These handshapes occur in IUR as well, as can be seen in Table 2.1. However, the six most frequent handshapes across all sign types in the database are – ordered in decreasing frequency – \[\], \[\], \[\], \[\], and \[\]. Interestingly, the \[\]-hand, which occurs frequently in other sign languages, occurs only in a few signs in IUR. At the same time, the \[\]-hand is much more common in IUR than the \[\]- and \[\]- handshapes, and should therefore be included in the set of unmarked handshapes. This is unexpected, given that this handshape appears rather marked based on the markedness criteria mentioned above. Furthermore, in non-symmetrical signs, only two handshapes have been identified on the non-dominant hand: \[\] and \[\]. It should be noted, however, that only a small number of IUR signs are non-symmetrical. This is something Bauer (2012) noted for YSL as well. Interestingly, her findings regarding unmarked handshapes are comparable to those of IUR, although she distinguished between lax, open, and curved \[\]-handshapes in her frequency counts. She concludes, however, that YSL has only three unmarked handshapes, namely \[\], \[\], and \[\].

A more extensive analysis is necessary to allow for firm conclusions regarding the marked and unmarked handshapes in IUR, but for now, I conclude that the set of unmarked handshapes at least shows considerable overlap with those described for other sign languages.

2.1.2. Locations in IUR and the signing space

In IUR, a few signs are articulated below the waist, on the back, or above the head. These locations might create a signing space that is larger than what has been described for urban sign languages. However, these signs are all iconic; more specifically, their locations are iconic in that they carry meaning. For instance, the sign **CARIBOU**, as pictured in Figure 2.2.a, refers to the antlers of a caribou, which protrude above its head. Similarly, the sign **BACK** indicates a signer’s back (Figure 2.2.b), and the sign **GOD** points towards the location above the speaker where God is normally assumed to be (Figure 2.2.c).

Other signs with unusual location features, which – at least at first sight – appear to be less iconic, were difficult to capture as the signer’s body or the table obscured the location. **CARRY-IN-AMAUTI**, for instance, is signed with both hands behind the signer. This sign refers to how babies are traditionally carried by Inuit women, an **amauti** being a parka with a large hood, and the hood includes a pouch in which the baby is carried (PIWA 2002).
Another example is RCMP (Royal Canadian Mounted Police), which is articulated on the upper leg. The sign represents the yellow trouser stripe that can be found on the traditional RCMP uniforms. Since the informants were sitting at a table, RCMP was signed below the table and thus not clearly visible in the videotaped data.

![Figure 2.2](image)

**Figure 2.2**: IUR signs with an unusual (iconic) location.

Another unusual place of articulation is the tongue, which is the location of SALT, as can be seen in Figure 2.3. Interestingly, the Kata Kolok sign for ‘salt’ is very similar and is also articulated on the tongue (Marsaja 2008:141).

![Figure 2.3](image)

**Figure 2.3**: SALT.

IUR makes no use of locations on the lower leg or on the foot. The upper leg is only used for the iconic sign RCMP, and the back is only used as location for signs that are related to the back. Signs in general are not signed with arms widely extended. This leads me to conclude that the signing space of IUR is of the same size as the signing space described for urban sign languages. In contrast, some rural sign languages have been argued to make use of a larger signing space (*inter alia* Nyst 2007; Marsaja 2008).
2.1.3. The non-manual parameter

IUR has several non-manual phonemes, and some of these are described here. First, I look at mouth gestures and mouthings, then I discuss signs that involve other non-manual articulators, and finally I turn to signs that have no manual part at all.

2.1.3.1. Mouth gestures and mouthings

Mouth gestures are those mouth patterns that cannot be traced back to a spoken word of the surrounding spoken language, that is, for IUR to either an Inuktitut or English word. Some lexical signs have an obligatory, i.e. lexically specified, mouth gesture, for instance the signs DEAF, THIN and BIG. The mouth gesture associated with DEAF can be best described as a lip smack, or as ‘pah’. THIN and SKINNY are specified for the same non-manual marker, namely the cheeks sucked in (‘ch.in’; see Figure 2.4.a). In contrast, lexical signs related to big or large size are obligatory accompanied by puffed cheeks (‘ch.pf’; see Figure 2.4.b). Similar lexical mouth gestures signalling thinness or bigness are found in many sign languages, as for instance NGT and BSL (Sutton-Spence & Woll 1999). For the sake of completeness, I wish to point out that these mouth gestures may also be used as a morphological marker (accompanying, for instance, a noun like HOUSE), as has also been noted for NGT and BSL.

Other signs that are lexically specified for a mouth gesture are DOG (protruding tongue) and YOUNG (protruding lips, slight blowing of air).

Mouthings, that is, silent articulations of (a part of) a word from the surrounding spoken language, are also found in IUR. In section 5.3.3, more attention will be given to this type of borrowing. For now, it is sufficient to note that I find mouthings from both English and Inuktitut in IUR. Examples are the mouthing of ‘picture’ with the sign TAKE-PICTURE, and ‘patua’ (‘far away’) with the sign FAR-AWAY. It remains unclear whether these mouthings are obligatory, as the use of mouthings differs from signer to signer.

Figure 2.4: IUR mouth gestures.

2.1.3.2. Other non-manual articulators

A number of signs in IUR are signed with body parts other than the hands. In a few signs, for instance, the arms are used as the main articulators. The sign CARIBOU in Figure 2.2.a is an example of such a sign, as is the sign INUKSHUK shown in Figure 2.5. An inukshuk is a stone landmark built by the Inuit, and traditionally used as reference points, *inter alia* for navigation. The sign NUDGE is the only sign in the database that is articulated with the elbow (elbow moves outward). Signs articulated with the leg are not found in the data, but it has to be noted that all conversations took place while being seated.

![Figure 2.5: INUKSHUK.](image)

Furthermore, I also find some non-manual elements that neither involve the mouth nor the arm/elbow. The non-manual marker accompanying the sign DIE is a case in point: the head sharply moves sideward, the mouth opens, and the tongue protrudes (see Figure 2.6); that is, besides the mouth, this marker also involves the head. In (1.a), an example of DIE with this non-manual marker is given (‘to’ = tongue out, ‘ht’ = head tilt). Note that the non-manual is optional with DIE.

![Figure 2.6: IUR non-manual marker referring to death.](image)

(1) a. BISCUIT CHRISTMAS EAT++ GRAB. HALF-AN-HOUR STOMACH-ACHE DIE FINISH

‘He ate many Christmas biscuits. Half an hour later he had a stomach ache, and died.’

b. SIBLING PERSON NAME-SIGN TWO WALKa, Ø INDEX. Ø INDEX.PL

‘My brother ‘name sign’ walked back (and said) ‘He is dead’. They were sad.’

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8 Throughout this thesis, IUR utterances are glossed following the conventions (see p. vii) but signs that are relevant to the discussion are represented by video stills. All data collected are available at the ELAR website, once permission has been granted (see website for details): [http://elar.soas.ac.uk/deposit/schuit2011inuitsign](http://elar.soas.ac.uk/deposit/schuit2011inuitsign)
2.1.3.3. Non-handed signs

Interestingly, the meaning ‘to die’ may also be expressed by the non-manual-part only, as can be seen in (1.b), where the characteristic head tilt and tongue protrusion occur without the accompanying manual sign (note that the non-manual may also occur with other signs, thus functioning as a morpheme).

Signs without hands (or ‘non-handed signs’) have been described for other sign languages, too, as for instance for ASL (Dively 2001) and for AdaSL (Nyst 2007). Another example of a sign without any manual part is the sign LIE (in the sense of ‘tell a lie’), which consists of an open mouth in which the tongue moves from left to right repeatedly.

Sometimes a non-handed sign is part of a compound, as for instance the non-manual sign which I gloss as ‘howl’, as it represents the howling of a wolf. Combined with the sign DOG, this yields the meaning ‘wolf’. As described above, DOG has an obligatory mouth gesture, which cannot be dropped. The non-manual part ‘howl’ therefore never occurs simultaneously with the manual sign. Furthermore, the order of the two parts is flexible, an equal number of instances of DOG^"howl" and ‘howl’^"DOG" has been found.

Taken together, I can conclude that IUR has few signs that are articulated with articulators other than the hand. Although no attempt at quantification has been made, it appears that the frequency of multi-channeledness is higher in IUR than in, for example, NGT, but lower than in AdaSL (Nyst 2007).

2.1.4. Summary and discussion

In this section, I briefly compare the phonological parameters handshape, non-manual markers, and location in IUR to those described for other sign languages. As I conclude by suggesting some typological classifications for the handshape parameter, I start by briefly summarizing the findings concerning non-manuals, multi-channeledness, and the location parameter.

With respect non-manual markers and locations, IUR turns out to be pretty similar to urban sign languages. First, it employs some mouth gestures that involve the cheeks (denoting size or intensity) or the tongue, and it makes use of mouthings borrowed from Inuktitut and English. Second, IUR has only a few signs that are articulated with articulators other than the hands, that is, only few multi-channeled signs. Without quantification, it is difficult to compare the frequency of such signs to other sign languages. The study of Nyst (2007), however, suggests that at least in AdaSL, multi-channeledness is more common than in IUR. A feature that appears more unusual in comparison to urban sign languages is the existence of some ‘non-handed’ signs, i.e. signs that do not have manual part or in which the manual part is optional. It has to be noted, however, that this phenomenon has only received little attention for urban sign languages. Third, apart from some iconic locations, the locations of IUR signs are all within the space generally described for urban sign languages. It should be noted, however, that the less common locations used in AdaSL are also iconic (Nyst 2007), and those used in Kata Kolok may well be iconic, too. Still, I conclude that the signing space of IUR is more comparable to
that of urban sign languages than to that of other rural sign languages, as, for instance, Kata Kolok.

Only concerning the handshape parameter, in particular, with respect to the number of phonetic handshapes, IUR differs from urban sign languages and shows a pattern that parallels that described for other rural sign languages. Interestingly, a number of rural sign languages have been claimed to have around 30 phonetic handshapes: AdaSL has 29 (Nyst 2007), Kata Kolok 28 (Marsaja 2008), and YSL 33 (Bauer 2012). For IUR, I identified 33 different handshapes. I can thus conclude that IUR patterns with other rural sign languages in this respect.

I could form typological classes based on the size of the set of handshapes that exist in a sign language. Such a classification may be based on the phonetic handshapes (surface forms) or on the phonological handshapes (underlying forms). Obviously, the latter is much more intricate and time-consuming, as it requires an in-depth phonological study (for instance, based on Van der Kooij’s (2002) model). For now, I can only base the suggested classification on the phonetic handshapes, that is, on the number of surface forms attested in the data, as the number of phonological handshapes has only been investigated for AdaSL.

In the absence of comprehensive typological comparisons – between and across urban and rural sign languages – it is difficult to determine how typological groupings should be defined. For spoken languages, consonant and vowel inventories have been categorised separately. Consonant inventories are grouped into five categories, namely small (6-14 consonants), moderately small (15-18), average (19-25), moderately large (26-33), and large (34 or more consonants) (Maddieson 2011a). Languages are categorised as having an average vowel quality inventory if they have 5 or 6 vowels, while a small inventory includes 2-4 vowels, and a large inventory 7-14 (Maddieson 2011b). The average group in both categorisations has been determined by the most frequently occurring, or mean inventory size. This would be an excellent way to define typological classes for phonetic handshape inventories, too. Unfortunately, however, it was outside the scope of this study to conduct a large-scale inventory study, and I therefore suggest defining typological classes based on multiples of 20. This appears sufficiently fine-grained to allow for classification, yet at the same time not too fine-grained (by creating too many empty groups). The first class of sign languages would thus have 20 or less phonetic handshapes, the next 21-40, the following 41-60, etc. Based on this classification, IUR would be grouped with AdaSL, Kata Kolok, and YSL in the second group, as these rural sign languages have between 28 and 33 phonetic handshapes. The 61-80 group would include Australian Sign Language (Auslan) with 62 (Johnston & Schembri 2007), and NGT with 70 phonetic handshapes (Van der Kooij 2002). To date, I know of no sign language that would belong to the <20 or the 41-60 group, but it seems more likely to find a (rural or urban) sign language that belongs to the latter group. Also, it seems unlikely to find a sign language that has more than 80 phonetic handshapes.
2.2. Pluralisation of nouns

In this section, I investigate cases of plural marking on the noun. Spoken languages display different pluralisation strategies, and often several strategies are found in one language. A very common pluralisation strategy is affixation. In some languages, phonological properties of the stem determine the phonological form of the affix; that is, they are dealing with phonologically triggered allomorphy. Dutch, for instance, has two plural allomorphs, the suffixes /-en/ and /-s/, the choice of which is predictable depending on the final segment of the noun stem. In other languages, for example German, the choice of the plural allomorph is lexically determined.

Another strategy is stem modification. This may be a stem-internal modification, whereby the quality of a stem vowel is changed, as for instance in English goose Æ geese, but it may also be an external (prosodic) modification in the form of reduplication. In this case, the form of the affix (the reduplicant) thus depends on the form of the root. Reduplication strategies include full reduplication, as seen in (2.a), where the whole stem is repeated, and partial reduplication, which may, for instance, target the final syllable of the stem (2.b) or the initial syllable of the stem (2.c).

(2)  a. rumahsakit ‘hospital’ Æ rumahsakit-rumahsakit ‘hospitals’ Malay
    b. rumah ‘house’ Æ mah-rumah ‘houses’ Malay
    c. kalding ‘goat’ Æ kalkanding ‘goats’ Ilocano

(Malay examples: Hasan (1974:45-46); Ilocano example: Rubino (2005:12))

The last strategy for pluralisation is zero marking. In this case the plural form of the noun is morphologically the same as the singular form; that is, plural is not overtly expressed. Examples from English include salmon and bison. The few examples discussed here thus reveal that strategies the pluralisation of nouns are not uniform across spoken languages, and may even be diverse within a language.

Pluralisation in sign languages may also be expressed via different strategies, and some of the attested strategies parallel those described for spoken languages. In 2.2.2.1, I introduce the strategies that have been identified for sign languages, namely reduplication, zero marking, and two-handedness. In 2.2.2, I describe which of these strategies are attested in IUR.

2.2.1. Nominal plurals in sign languages

Pluralisation has been described for various sign languages, and it is usually mentioned in grammatical sketches, too, but the most thorough study on a single sign language is that of Pfau and Steinbach (2005, 2006) on DGS. They try to predict the pluralisation strategy based on the phonological properties of the base nouns. One important phonological property they identify concerns whether the noun is body-anchored or not. For body-anchored nouns, the find that the plural is realised by zero marking. Within the group of
non-body-anchored signs, signs with simple movement have to be distinguished from signs with complex (i.e. circulating, alternating and/or repeated) movement. DGS signs with a complex movement also receive zero plural marking. In contrast, non-body-anchored signs with a simple movement are pluralised by means of reduplication. Within this group, a distinction can be made between signs that are located on the lateral side of the signing space and those that are located on the midsagittal plane of the signing space. In the former, plurality is marked by means of sideward reduplication, while the latter undergo simple reduplication. The phonological properties of the noun thus specify its plural form (Pfau & Steinbach 2005). For BSL, Kyle and Woll (1985) describe that midsagittally located nouns may also undergo sideward reduplication, while Zwitserlood, Perniss and Özyürek (2012) state that in Turkish SL (TİD), reduplication for plural marking does not occur at all. Lack of reduplication for plural marking has also been reported for IPSL (Zeshan 2000). The possibilities of morphological plural marking thus may differ between sign languages (also see Pfau and Steinbach (2006) for typological comparison).

In some sign languages, plurality may even be non-manually marked. This is a strategy described for LIS. As described for DGS, body-anchored signs in LIS generally do not show reduplication or displacement, but may be marked by a non-manual marker which is described as a movement of the head from left to right (at least three times), accompanied by a head-nod (Pizzuto & Corazza 1996:182). The authors argue that this non-manual inflection is optional, and that it has an emphatic meaning.

It is rather interesting that sign languages appear to make little use of the possibilities the manual-visual modality would afford. That is, it would in principle be possible to pluralise one-handed signs by adding the non-dominant hand. However, to date this pluralisation strategy has only been described for BSL (Kyle & Woll 1985), and for Flemish Sign Language (VGT) as a strategy to express a dual form (Heyerick et al. 2011).

Besides these morphological strategies, descriptions of pluralisation in sign languages often mention other strategies as well, including the use of quantifiers or numerals, number incorporation (cf. section 3.4.2), and classifier predicates. These are predicates of motion and location in which the handshape refers to a referent class. Referents are grouped based on salient characteristics, such as shape and animacy (more on classifiers in section 4.2).

### 2.2.2. Nominal plurals in IUR

From the spontaneous data, I can deduce that IUR has several ways to mark pluralisation. Moreover, which strategy applies depends on phonological properties of the base noun – similar but not identical to what has been described for DGS. The different morphological strategies for plural marking found in IUR are described in section 2.2.2.1. Other pluralisation strategies are discussed in section 2.2.2.2. Statements about the impossibility of a certain construction are based on the fact that it did not appear in the data, and, crucially, on discussions with the informants. Generally, informants were very confident in their judgements, but still, it has to be acknowledged that conclusions reached on this basis may not be fully reliable.
2.2.2.1. **Morphological strategies for plural marking**

Pluralisation in IUR does not only depend on the location of a sign, but also on the sign’s movement. I first consider body-anchored nouns and then turn to non-body-anchored nouns. Most body-anchored signs receive zero marking for plurality, similar to what has been described for DGS (Pfau & Steinbach 2005). In Figure 2.7, two examples of body-anchored signs that include a movement are provided: CANADA-GOOSE has a single sideward movement, TROUT has a repeated movement towards the mouth (with end contact).

![Figure 2.7](image1.png)

**Figure 2.7:** Body-anchored signs with a movement on the midsagittal plane.

Interestingly, at least one body-anchored sign may undergo reduplication. This is the sign CHAR, which is illustrated in Figure 2.8. Char is a kind of fish and is thus from the same semantic field as TROUT. Note the similarity between CHAR and TROUT in Figure 2.7.b: both signs are located near the mouth and include a movement. TROUT, however, does not allow reduplication for plural, probably because it is not only body-anchored but also involves repeated (i.e. complex) movement. However, both CANADA-GOOSE and CHAR are body-anchored and have a simple straight movement; the fact that only the latter allows for reduplication is therefore surprising. I speculate that this may result from the direction of the movement: only CANADA-GOOSE crosses the midsagittal plane. Since the feature [crossing] is known to block the phonological process Weak Drop in ASL (Battison 1974), I suggest that the same feature is also responsible for blocking the morphological process pluralisation in IUR.

![Figure 2.8](image2.png)

**Figure 2.8:** The body-anchored sign CHAR (begin and end locations).
Non-body-anchored signs with a complex movement receive zero plural marking – again similar to what has been described for DGS (Pfau & Steinbach 2005). In Figure 2.9, examples are given of IUR signs with different types of complex movements: NET has a repeated straight movement (Figure 2.9.a), DOG a repeated and circular movement (Figure 2.9.b), and CAR a repeated and alternating movement (Figure 2.9.c). None of these nouns can be reduplicated.

![Figure 2.9: Non-body anchored IUR signs with complex movement; in each sign the movement is repeated.](image)

In IUR, non-body-anchored signs with a simple movement that are located on the midsagittal plane come in two types: balanced (i.e. both hands move and have the same handshape) and unbalanced signs (i.e. the non-dominant hand functions as place of articulation). In IUR, balanced do not allow for reduplication, in contrast to what has been described for DGS (Pfau & Steinbach 2005). Examples are IGLOO (Figure 2.10.a) and EGG (Figure 2.10.b). For signs of this type, another strategy to mark pluralisation is used, which will be described in section 2.2.2.2 below.

![Figure 2.10: Two-handed IUR signs articulated in midsagittal signing space that do not allow for reduplication for pluralisation.](image)

Interestingly, in the data there is only one unbalanced, two-handed sign with a simple movement, the sign PLANT (see Figure 2.11). PLANT allows for reduplication; actually, this sign has only been found in plural form in the available data. In general, I do not find many unbalanced signs in IUR, and most of these are verbs (SHOOT, STAND). Unbalanced, two-
handed nouns are rare. Another example is SEAL (see Figure 2.15.a), but this sign has a repeated movement and can thus not be reduplicated.

![Image of the unbalanced two-handed sign PLANT, which allows for reduplication.](image1)

**Figure 2.11:** Begin and end locations of the unbalanced two-handed sign PLANT, which allows for reduplication.

Non-body-anchored signs with a simple movement on the lateral side of the signing space allow reduplication. All signs of this type are one-handed. Plural forms of signs like WEEK and MONTH have been observed, and they involve simple reduplication. Interestingly, the sign WEEK is not only repeated, it is also lowered in signing space, as can be seen in Figure 2.12, where the two stills represent the end locations of the base and the reduplicant. In a sense, the reduplicant is thus not fully faithful to the base. This lowering is probably iconically motivated, as WEEK represents the arrangement of a week on a calendar: the second week is represented below the first week, and this layout is visualised in the plural form of WEEK (see also Figure 3.12 and section 3.4.4.3 on the possibility of numeral incorporation).

![Image of the lateral sign WEEK++ showing the end locations of the base and reduplicant.](image2)

**Figure 2.12:** Picture of the end locations of the base and reduplicant of the lateral sign WEEK++.

Only for one non-body-anchored lateral sign with a simple movement, I observed a plural form that includes a sideward reduplication, the strategy that Pfau and Steinbach (2005) described for similar signs in DGS. The sign that uses this strategy is PERSON (Figure 2.13), which is phonologically quite similar to the DGS sign CHILD (cf. section 3.1.4 for more information about this sign).
Another strategy for the pluralisation of signs with a simple movement in lateral signing space is to add the non-dominant hand. For obvious reasons, this strategy is only available for one-handed signs. In the data it has been observed with DOOR and FISH, for instance, pictured in Figure 2.14. This two-handed plural strategy has not been described for many other sign languages, although it should be noted that this may be due to the scarcity of studies regarding plurality in general. As mentioned above, Kyle and Woll (1985) note this strategy for plural marking in BSL, but they do not specify whether the strategy only applies to one-handed lateral signs with simple movement, or possibly to other one-handed signs as well. Also, Heyerick et al. (2011) describe the same strategy for VGT but point out that it always expresses duality. In IUR, the two-hand strategy is not constrained in this way. The context has to make clear whether inflected forms like those in Figure 2.14 should be interpreted as dual or plural forms.

2.2.2.2. **Expressing plurality by means of other strategies**

Plurality can also be marked by means of non-morphological strategies in IUR. The strategies found involve the use of entity classifiers, quantifiers or numerals.

First, just as in other sign languages, pluralisation in IUR can also be marked through entity classifier predicates which follow the unmodified noun. Most often, this involves the repetition of a classifier handshape, with a tracing movement, localised in signing space.
For instance, in (3), the classifier predicate BE-LOCATED, which follows a description of how to make mats from branches, involves a $\hat{\gamma}$-handshape, with the fingers pointing away from the signer and the palm facing left, that is located in the signing space a number of times, thus forming a tracing movement in space (glossed as BE-LOCATED_{in-rows;CL_b1}). Crucially, the classifier strategy does not only express plurality, but also indicates a certain spatial relation between the items.

(3) \[
\text{CUT BRANCH BUSH TIE-TOGETHER BE-LOCATED}_{\text{in-rows;CL}_b1}
\]

‘We cut branches from bushes, tied them together, and then there were mats (next to each other) in many rows.’

Another example of a classifier predicate expressing plurality was found with the noun SEAL. In Figure 2.15.a, the singular form of SEAL is pictured. This sign may combine with the classifier predicate MOVE_{up-and-down;EC}_s shown in Figure 2.15.b, yielding the meaning that multiple seals appeared above the surface. Note that the plural form of the classifier predicate, in contrast to that in (3) involves the simultaneous use of both hands, which are moving up and down, alternating and repeating.

![Figure 2.15](image)

**Figure 2.15:** Singular form of SEAL and classifier predicate used to express the plural of SEAL.

The use of numerals and quantifiers is another strategy commonly used in IUR to express plurality of a noun. In (4), an example of a plural expressed by a numeral is given. Note that the noun PILL itself is not modified, as is expected given that the sign is one-handed and located on the lateral side of the signing space. More information about IUR numerals will be provided in section 3.4.4.

(4) \[
\text{INDEX}_{3a} \text{ PILL THREE-2 INDEX}_{3a} \text{ INDEX}_{3b} \text{ ONE-2 EAT INDEX}_{3b}
\]

‘I take three of these pills, of those I take one.’

Quantifiers like MANY and ALL have also been identified, but have not been studied in detail. The example in (5) illustrates the use of the quantifier MANY. GLASS is a one-handed
sign, articulated in neutral signing space. Remember from the discussion above that signs of this type cannot be reduplicated.

(5) \textit{MANY GLASS DRINK}  
\textit{‘We drank many glasses.’}  

Different pluralisation strategies may be combined as well. In (6.a), a reduplicated entity classifier is combined with a numeral, and in (6.b), a numeral is combined with the plural form of PERSON, which, as explained above, is formed by a sideward reduplication. This example thus parallels English, where numerals also combine with the plural form of nouns (e.g. ‘three dogs’) but differs from DGS and spoken languages like, for instance, Hungarian, where numerals combine with the singular form of nouns (Pfau & Steinbach 2006).

(6)  
a. \textit{BED BE-LOCATED\textsubscript{m-a-row}:CL\textsubscript{b1} SEVEN}  
\textit{‘Seven beds stood next to each other.’}  

b. \textit{ELDER PRO\textsubscript{1} PERSON++ SEVEN}  
\textit{‘My parents had seven children.’}  

\textbf{2.2.3. Discussion}  

As pointed out in section 2.2.1, pluralisation has been described for various sign languages, but not always in depth. Pfau and Steinbach (2005) is the most thorough study on a single sign language that attempts to predict the choice of pluralisation strategy based on phonological properties of the base noun. I therefore compare the IUR patterns to those of DGS described in their study.

At this point, IUR cannot be situated with respect to other rural sign languages, as to date pluralisation patterns have not been described for other rural sign languages. The data reveal, however, that across sign languages quantitative and qualitative differences exist in the area of pluralisation. That is, with respect to quantity, IUR patterns with DGS and not with, for instance, IPSL and TİD, where reduplication is not used at all for pluralisation. However, with respect to the realisation of reduplication (i.e. quality), IUR and DGS differ, as different strategies apply to different types of nouns. A comparison of the patterns presented schematically in Figures 2.16.a (DGS) and 2.16.b (IUR) reveals the observed differences (pluralisation strategies are highlighted).

First, in both sign languages, body-anchored signs generally receive zero plural marking. I found one exception in IUR namely \textit{CHAR}, which allows reduplication. It is possible that further studies would reveal more body-anchored signs that allow reduplication in IUR, but for now I can tentatively conclude that body-anchored signs with a simple movement that do not cross the midsattigal plane allow reduplication, in contrast
to those specified for either complex (i.e. circular, alternating, and/or repeated) movement or the feature [crossing].

Second, signs with a complex movement that are articulated in neutral signing space also receive zero plural marking in IUR, as they do in DGS. Obviously, complex movement features always block reduplication, independent of place of articulation.

![Diagram](image_url)

**Figure 2.16.a:** Overview of plural marking strategies in DGS (based on Pfau & Steinbach 2005: 118) (‘red.’ = reduplication; ‘Ø’ = zero marking).

![Diagram](image_url)

**Figure 2.16.b:** Overview of plural marking strategies in IUR (‘red.’ = reduplication; ‘Ø’ = zero marking; ‘H2’ = non-dominant hand).

Third, signs with a simple movement in neutral signing space can be divided into two groups: those that are located on the midsagittal plane of the signing space (two-handed signs), and those that are signed on the lateral side of the signing space (one-handed signs). Interestingly, with respect to both these types, DGS and IUR differ. All nouns of the former type allow for simple reduplication in DGS – be they balanced or unbalanced – while in IUR only unbalanced signs do (but remember that PLANT is the only example of this type in the data). The latter type is pluralised in DGS by means of sideward reduplication, while in IUR such nouns only allow for simple reduplication, without the
sideward movement (the only exception being the noun PERSON, for which I therefore assume that its plural form is lexically specified). One-handed laterally located signs in IUR furthermore allow for plural marking by means of addition of the non-dominant hand, a strategy which has so far only been described for BSL (Kyle & Woll 1985). Adding the non-dominant hand may also be restricted to certain signs, but more research needs to be done to identify possible constraints.

The discussion thus reveals (i) that IUR nouns are commonly pluralised by means of reduplication; (ii) that pluralisation is subject to phonologically triggered allomorphy, just as in DGS; but (iii) that the restrictions on the realisation of plural marking are different from those described for DGS. I have used the same classification of nouns as Pfau and Steinbach (2005), but, based on the data, certain adaptations had to be made. First of all, I place ‘complex movements’ higher in the hierarchy than ‘body-anchored’ because all signs that involve a complex movement block reduplication, while, in contrast to DGS, body-anchoredness does not always block reduplication in IUR. Furthermore, since all signs that are located on the midsagittal plane are two-handed, and all located on the lateral plane are one-handed, this terminology is used, since this allows us to further distinguish balanced and unbalanced signs for the former type. The pluralisation patterns in IUR are fairly systematic, but appear more complex than those in DGS. Pfau and Steinbach (2005:142) already predicted that their classification might require certain adaptations in the light of pluralisation data from other sign languages, and the present study shows that this is indeed the case: in order to account for the IUR data, more fine-grained distinctions are needed, as is evident from the additional branches in Figure 2.16.b.

2.3. Negation

Sentential negation has received considerable attention from typologists. A typological classification has been proposed for spoken language negation by, for instance, Dahl (1979) and Payne (1985), who suggest three important strategies for encoding sentential negation: negative affixes, negative particles, and negative auxiliaries. The first two strategies are cross-linguistically the most common ones and are exemplified by the examples in (7). In Turkish (Altaic; Turkey), sentential negation is expressed by the verbal suffix –mI (which is subject to vowel harmony), while in Dutch, the negative particle niet is used. Note that the translations illustrate that English also employs a negative particle to express negation.

(7) a. O adam kitap al-ma-z
    that man book buy-NEG-TNS
    ‘That man did not buy a book.’ (Tuba Yarbay Duman, p.c.)

    b. De man gaat niet naar school
       the man goes NEG to school
       ‘The man does not go to school.’

       Turkish

       Dutch
Interestingly, in some languages, sentential negation is expressed by two elements. This strategy, which has been referred to as ‘split negation’, has to be distinguished from ‘double negation’, where the combination of two negative elements yields a positive sentence. An example of the split negation strategy attested in French is given in (8).

(8) La femme ne marche pas à la maison  
    the woman NEG walk.3SG NEG to the house  
    ‘The man does not walk to the house.’

2.3.1. Negation in sign languages

Studies on sign language negation have revealed that across sign languages, negation is expressed in strikingly similar ways (see Zeshan (2004a) for an overview). Most frequently, it is realised by a head movement (e.g. a headshake), which accompanies (part of) the clause, often in combination with a manual negative particle. A closer look, however, reveals that differences exist across sign languages, and Zeshan (2004a, 2006) thus suggests a sign language specific typology. She proposes that sign language negation comes in two different types: manual dominant and non-manual dominant systems.

Manual dominant systems are characterised by the fact that a manual negation sign is obligatory; that is, a sentence cannot be negated by a non-manual marker only, irrespective of its scope, as is illustrated by the ungrammatical LIS example in (9.a). Example (9.b) includes the sentence-final negative sign NON. Note that in manual dominant systems, the non-manual negative marker commonly accompanies only the manual marker, but is unlikely to spread beyond this marker across (part of) the clause – and this also holds true for LIS.

(9) a. *PAOLO CONTRACT SIGN  
   (   (   )   (    hs   )   )  
   LIS

    b. PAOLO CONTRACT SIGN NON  
   hs

   ‘Paolo didn’t sign the contract.’ (Geraci 2005:221)

To date, only a few manual dominant sign languages have been identified. Besides LIS (Geraci 2005), Japanese Sign Language (Zeshan 2004a), Hong Kong Sign Language (Tang 2006), Jordanian Sign Language (LIU, Hendriks 2007), Kata Kolok (Zeshan 2004a; Marsaja 2008), and YSL (Bauer 2012) have been argued to employ manually dominant negation systems.

The other type of system, the non-manual dominant system, is more frequent. In this system, the manual negative particle is optional, whereas the non-manual negative marker is obligatory and capable of spreading. In NGT, for instance, sentential negation is commonly expressed by headshake only, as in (10), where the headshake has spread over the entire verb phrase.
Other sign languages with a non-manual dominant system are DGS (Pfau 2002, 2008b), ASL (Neidle et al. 2000), Catalan Sign Language (LSC, Pfau & Quer 2002), TİD (Zeshan, 2003) and IPSL (Zeshan 2000). Sign language sentential negation thus can be classified in either of two types: manual dominant systems that require a manual negation marker, and non-manual dominant systems that require a non-manual negation marker.

Let me now briefly return to the typological classification proposed for spoken languages. Pfau (2008b) argues for DGS that the language fits well in the suggested typology in that it exhibits split negation, with one element being an (optional) negative particle and the other one a non-manual negative affix, which attaches to the verb. It is likely that this classification can also be applied to other non-manual dominant sign languages, namely those in which the non-manual is confined to the manual particle, should be classified as languages with particle negation; in this case, the particle would be lexically specified for the non-manual marker (as suggested for other non-manual markers in section 2.1.3.2).

2.3.2. Negation in IUR

In this section, I provide an overview of the manual and non-manual means to express negation in IUR. I first describe the basic manual negators, then the non-manual markers accompanying negative utterances, and then the interaction of manual and non-manual elements. Finally, I briefly discuss the possibility to signal negation by means of signs that are not dedicated negators.

Data analysis revealed that IUR has two manual negative signs, namely NEG-1 and NEG-2, which only differ in the handshape parameter: NEG-1 has a \( \text{\textcopyright} \)-handshape (see Figure 2.17), NEG-2 has a \( \text{\textregistered} \)-handshape. Based on the available data, it seems that these two signs are used interchangeably. Both generally follow the sign they negate, as exemplified in (11), but given that word order has not been analysed for IUR, it would be premature to make a generalisation about the exact position of the negative signs (‘fr’ = frown).

(11) \[ \begin{array}{l}
\text{a. WOLVERINE EAT NEG-1} \\
\text{hs, fr} \\
\text{‘I do not eat wolverine.’}
\end{array} \]

\[ \begin{array}{l}
\text{b. PRO.PL FISH-BITE NEG-2} \\
\text{hs, fr} \\
\text{‘The fish didn’t take their bait.’}
\end{array} \]
Interestingly, the two manual negators are not only used interchangeably for sentential negation; also for existential negation, it is possible to use either NEG-1 or NEG-2, as is illustrated in (12).

(12)  

a. FEMALE NEG-1 SMALL NEG-1 BIG ONE  
   ‘There were no females, no babies, just one big (male caribou).’

b. CHAR NEG-2  
   ‘There is no char.’

In the fully annotated spontaneous data, NEG-1 occurred a total of 44 times, and NEG-2 11 times. Moreover, one instance of NEG-1\textsuperscript{-}NEG-2 was observed: the handshape of NEG-1 changed into the handshape of NEG-2 during the outward movement. That is, a total of 56 tokens of negator signs were identified.

Two non-manual markers were found to accompany the negative signs: a headshake and a frown, which is pictured in Figure 2.18 (cf. section 5.3.3.4 for more information about the origin of this non-manual marker). 37 out of the 56 negative signs are accompanied by both these markers, thirteen are accompanied by a headshake only, and four are accompanied by a frown only. The remaining two instances are not accompanied by any non-manual marking. Non-manual marking is thus not obligatory, but a combination of the frown and a headshake is favoured.
As explained in the previous section, in some sign languages, it is possible to negate clauses by a non-manual marker alone, i.e. without using a manual negative sign, as was shown in (10) for NGT. The same is not possible in IUR. Since no examples of this type were found in the spontaneous data, I asked informants whether sentences such as (13) were possible. In addition, they were asked to repeat such sentences. Interestingly, in their repetition, they would never articulate the non-manual simultaneously with the sentence, but would rather either sign the sentence and then add a non-manual negator after the sentence, or they would add a manual negator. I take this to indicate that utterances cannot be negated by non-manuals alone – be it the headshake, the frown, or both in combination; in (13), this is illustrated for the combination of both markers (note that this example is judged impossible irrespective of the scope of the non-manual marker).

(13) *POLAR-BEAR SEE
    ‘I didn’t see a polar bear.’

Rather, the non-manual components always accompany a negative sign. Examples in which both non-manual components accompany NEG-1 are shown in (14). Similar to what has been described for LIS above, the non-manual markers in IUR generally do not spread beyond the manual negator. The negation patterns, that is, the fact that clauses cannot be negated by a non-manual only together with the observation that the non-manuals do not spread, thus suggest that IUR belongs to the group of manual dominant sign languages.

(14) a. POLAR-BEAR SEE NEG-1, ROUND-EARS\^LONG-NAILS\^ANIMAL NEG-1
    ‘I didn’t see a polar bear, nor a grizzly bear.’

    hs, fr

b. LOOK-THROUGH-BINOCULARS NEG-1
    ‘I didn’t see anything through my binoculars.’

Besides NEG-1 and NEG-2, there are two other manual signs that may negate phrases, but which are not dedicated negative signs. First, I found 16 instances in which a sign glossed as WAIT-NEG is used to negate a proposition (see Figure 2.19.a); in half of its occurrences, this sign is accompanied by a headshake and a frown. The gloss is motivated by the fact that the sign is manually identical to the verb sign WAIT, which, however, is accompanied by a (lexical) facial expression that indicates waiting, and which is indeterminate with respect to the polarity of the sentence. All occurrences of WAIT-NEG accompanied by a negative non-manual marker imply a meaning of waiting – albeit vague. That is, the signer often expresses that he refrained from performing an action, as is illustrated in (15.a). I therefore suggest that the verb WAIT has grammaticalised into a negative sign, which, however, still retains some of the semantics of the source sign.

Furthermore, the sign PALMS-UP can be used to indicate negation. The sign involves a short, upward movement of the hands and is often accompanied by a shoulder shrug. In Figure 2.19.b, the end location of the sign is illustrated. In (15.b), for instance, PALMS-UP
indicates that the signer did not find anything in the mailbox. It has to be noted, however, that PALMS-UP does not function as a sentential negator, that is, it does not negate a predicate. Rather, it appears to function as a sort of negative comment on a preceding event. Quantifying the negative use of PALMS-UP in the data is difficult because the sign is also frequently used to indicate doubt and uncertainty, or as a general question sign – similar to what has been observed for other sign languages such as e.g. New Zealand SL (NZSL; McKee & Wallingford 2011) and NGT (Van Loon 2012). In all these functions, a headshake commonly accompanies this sign, and the headshake thus does not help to distinguish the negative function of the sign.9

\[\text{Figure 2.19: IUR signs WAIT-NEG and PALMS-UP.}\]

\hspace{1cm}

\begin{align*}
\text{(15) a. WARM} & \hspace{1cm} \text{FINE} \hspace{1cm} \text{GO, COLD} \hspace{1cm} \text{WAIT-NEG} \\
& \hspace{1cm} \text{‘When it’s warm, it’s fine to go out, when it’s cold, I don’t.’} \\
\text{hs} & \\
\text{b. MANY} & \hspace{1cm} \text{INDEX-LOC} \text{post-office} \hspace{1cm} \text{OPEN-SMALL-DOOR, PALMS-UP} \\
& \hspace{1cm} \text{‘Many times I opened my mailbox, but (there was) nothing.’} \\
\end{align*}

2.3.3. Discussion

The discussion above reveals that there are several ways to negate sentences in IUR, but all require a manual sign. Following Zeshan’s (2004a, 2006) typology of negation, IUR can thus be classified as a manual dominant sign language. This is in line with the negation pattern described for other rural sign languages, such as Kata Kolok (Marsaja 2008) and YSL (Bauer 2012). While it is interesting that to date no rural sign language with a non-manual dominant system has been described, this does not imply that the type of negation system would distinguish rural sign languages as a group from urban sign languages. After all, manual dominant negation systems have also been described for a number of urban sign languages (e.g. Jordanian, Italian and Japanese SLs). Also, it should be noted that to date negation has only been investigated in some detail for three rural sign languages.

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9 When used as a co-speech gesture in spoken languages, headshakes also commonly signal uncertainty and doubt (McClave 2000; Kendon 2002).
Even though manual negators are obligatory in IUR, non-manuals are commonly used. Two different non-manuals have been identified in the data. The first is a headshake, which, of course, is not unexpected given the cross-linguistic spread of this non-manual negator. In fact, it has been observed in all sign languages studied to date, even in those where a different non-manual gesture is used for negation in the surrounding culture (e.g. TID, Greek SL). The other non-manual, which appeared somewhat less frequently in the data, is a frown. Both non-manuals may occur together, as well as apart from each other. It is clear that the frown is a gesture borrowed from Inuit culture (cf section 5.3.3.4).

Interestingly, most studies on sign language negation focus on negative head movements, probably implicitly assuming that the facial expression is an affective rather than a linguistic marker. A notable exception is the study of Yang and Fischer (2002) on negation in Chinese SL (CSL). These authors also describe a negative facial expression (NFE) and show that the NFE is more important in negative utterances than the headshake. Actually, they find that in CSL, the headshake never accompanies manual signs, but rather follows them (and is in complementary distribution with the manual negator BU). Also, they claim that CSL is a non-manual dominant sign language, as clauses can be negated by the NFE alone. IUR is thus clearly different from CSL. Given that the negative frown is not observed in all negative utterances (41 out of 56 manual negative signs are accompanied by at least a frown), and given that the frown by itself (without manual negator) cannot negate a proposition, it is difficult to determine at this point, whether the negative frown, as used in IUR, is a linguistic non-manual. What is clear from the data though is that the negative frown is more commonly used and generally more pronounced in IUR than it is in other sign languages. The fact that it commonly only accompanies the manual negator might suggest that it is an (optional) lexical non-manual marker.

Furthermore, besides the two basic clause negators \( \text{NEG-1} \) and \( \text{NEG-2} \), two other signs may be used to indicate negation in IUR, namely \( \text{WAIT-NEG} \) and \( \text{PALMS-UP} \). The first is likely grammaticalised from the lexical sign \( \text{WAIT} \), and still may be used as such. The data suggest that the grammaticalised sign still retains some of the semantics of the source sign; that is, it is not a ‘pure’ negator. I take this to be a highly interesting grammaticalisation path – and one that is not listed in the comprehensive overview by Heine and Kuteva (2002) – that certainly deserves further cross-linguistic investigation. As mentioned above, the latter sign has been described for a number of sign languages (e.g. NZSL and NGT), and in all these sign languages, it may fulfil various grammatical functions, such as discourse marker, question particle, and connective. However, only for Danish Sign Language (Engberg-Pedersen 2002:146) and for AdaSL (Nyst, p.c.), has it been described as a possible marker of negation. This sign, too, is probably grammaticalised, but not from a lexical sign. Rather, it is likely that \( \text{PALMS-UP} \) is a functional element, possibly a discourse or epistemic marker, that originated from a co-speech gesture (Van Loon, Pfau & Steinbach, in press). The present study thus also contributes to the understanding of the multi-functionality of this element by identifying a function that appears less common cross-linguistically.
2.4. Conclusion

In this chapter, selected aspects of IUR’s phonology, morphology and syntax have been described and positioned typologically. I have shown that in the area of phonology, IUR is comparable to other rural sign languages with respect to its handshape inventory, but that it is more similar to urban sign languages when it comes to the use of locations. As for the proportion of multi-channelled signs, IUR appears to fall in between these two groups. Even based on my fairly brief description of phonological properties, I can thus conclude that in the realm of phonology, IUR shares properties with different types of sign languages.

As for morphology, I only addressed the pluralisation of nouns, and showed that in this area, IUR shows interesting parallels to urban sign languages, most importantly DGS, as both sign languages exhibit similar pluralisation strategies and both display phonologically triggered plural allomorphy. Even more intriguing, however, is my finding that, these parallels notwithstanding, the noun-specific restrictions on the choice of strategy differ between the languages. A comparison to other rural sign languages was impossible as this grammatical feature has not yet been studies for other rural sign languages. Further research – be it on urban or rural sign languages – will likely bring to light new types of nouns and different restrictions on the application of pluralisation strategies.

In the area of negation, I investigated negation and demonstrated that IUR belongs to the group of sign languages with a manually dominant negation system. All other rural sign languages studied to date have also been found to be of this type, but several urban sign languages are also manually dominant in their negation.

Taken together, IUR thus shows certain similarities with both urban and rural sign languages. This ‘hybrid’ character of IUR will receive further support by my discussion of verbal inflection in chapter 4. In chapter 6, I will return to this issue and try to account for the typological features of IUR.