

The contribution of the written form (SW) of sign languages to the field of sign linguistics: The case of writing Maltese Sign Language (LSM) pointing signs and pronominals.

Abstract

The use of SignWriting (henceforth SW) (Sutton, 2011) is spreading at an accelerating speed (Hoffmann-Dilloway, 2011) with the largest corpus of written sign language data available in written ASL of the New Testament (written by Nancy Romero¹). Galea (2014) describes ten active and public literature SignPuddles between the years 2011-2014: ASL Bible, Brazil, Czech, Germany, Malta Nicaragua Norway, Spain, Tunisia and US Literature Puddles. She argues that enough data is now available for researchers to commence serious investigations into the linguistic analysis of the written forms of different sign languages.

The developing orthography of Maltese Sign Language (LSM) that uses SW (Galea, 2014) can be found in the Literature Sign Puddle for LSM². From the analysis of the LSM texts (Galea, 2014) it became clear that the reading of pointing signs (index finger plus movement) is highly ambiguous. The forms were tested and read by ten Deaf SW readers. It was found that in order for LSM pronominal pointing signs to become readable and distinct from other pointing signs the pronominal forms required written-marking of 1st, 2nd and 3rd person. This indicates that LSM pronoun pointing forms are marked by pronominal loci for 1st, 2nd and 3rd person.

Within the field of sign linguistics there is an ongoing debate concerning the ambiguity of pointing signs within the agreement debate (cf. Cormier, Schembri & Woll, 2013). It is argued here that an analysis of the readability of SW texts of specific languages can shed light on the different forms of pointing signs in sign language.

¹ ASL Bible Translated from the New Living Translation (NLT) (by Interpreter Nancy Romero) available at <http://www.signbank.org/signpuddle2.0/index.php?ui=1&sgn=151>

² The LSM Literature Puddle can be found at this link:
<http://www.signbank.org/signpuddle2.0/index.php?ui=1&sgn=0&sgn=127>

In the following paper, the LSM written forms of the readable forms of LSM pronominal pointing forms and other related issues regarding the writing of agreement in LSM are discussed.

Introduction

In the Maltese Sign Language (henceforth LSM) literature texts available in the LMAP (see footnote 2) LSM pronouns I/ME, YOU SG., HE/SHE/IT Right, HE/SHE/IT Left, YOU PLU., THEY/THEM right, THEY/THEM left (all except 1st person plural WE/US) cannot be read as they are currently spelt. This indicates that additional markers are required to distinguish pronouns from other pointing signs in LSM written texts. LSM pronouns could be successfully read when they were marked with spatial loci that represent 1st, 2nd and 3rd person. When the pointing signs included pronominal markings they could be distinguished from other pointing signs such as TODAY, NOW, THERE, HERE. It is argued here that taking the case of LSM pronominals, the readability (or otherwise) of the written representation of a sign language may be used as a valuable resource for sign linguistics.

The LSM texts and the Deaf readers

LSM is the sign language used by the Maltese Deaf. The users of the language average around 100 in total, although the figure of the profoundly deaf is in the range of 400 people. The LSM texts used in the analysis for this work can be found in the Literature Malta Archive Puddle, the LMAP (see footnote 2 for link). The LMAP is a frozen copy of the Malta Literature Puddle which was archived on request by Stephen Slevinski in order to carry out the analysis, without on-going change to the Puddle (since the Malta Literature Puddle is one of the active puddles and thus changes with time).

In Appendix A, the data is numbered and taken from my own work, Galea (2014). The source of each spelling can be found in brackets e.g. (Luqa21v27). This is the title of each sentence where the SW sign can be found. One can enter the LMAP which is public and search for each title and thus find the use of the spelt signs in context. The LSM texts found in the LMAP consist of children's stories, some traditional prayers and some verses from the New Testament. The LMAP can be found at

<http://www.signbank.org/signpuddle2.0/index.php?ui=1&sgn=147>

The majority of the LSM literature in the LMAP has been written by the researcher³ and a small amount have been written by two other Deaf SignWriters (for more information see Galea, 2014). All work in the LMAP was carried out during projects carried out by the University of Malta between the years 2008-2011. All texts were read by Deaf SW readers during the writing phase and any recommendations were included. Ten Deaf LSM readers were consulted with and interviewed regarding spelling preferences for their language LSM (see Galea, 2014) including preference for LSM pointing sign spellings discussed in this paper.

LSM pointing signs in SW

In the LSM texts pointing signs have been written phonetically using the ISWA 2010. They consist of an index-finger handshape (rotated and orientated to different degrees) and a movement glyph. These spellings of pointing signs were not marked enough for the reader to access intended pronouns. LSM pronouns are a crucial part of the LSM sentence. If the pronouns cannot be read, the whole noun-phrase cannot be read. In a LSM sentence such as YOU-SG⁴ GO SEA, the SW pronoun YOU-SG involves the index handshape glyph and a forward movement glyph. However the spelling of YOU-SG is highly ambiguous and can be read as HE/SHE/IT or another pointing sign such as THERE, TOMORROW, THAT. This evidently causes a major difficulty for reading.



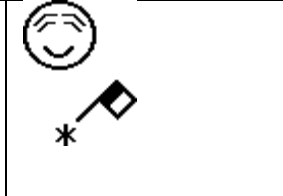
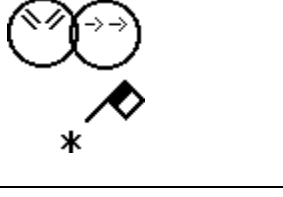
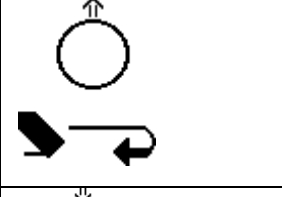

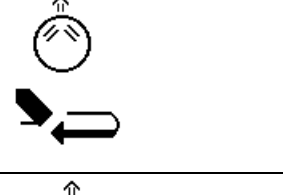
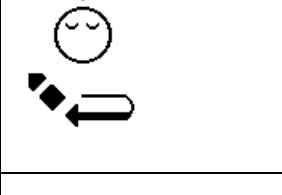
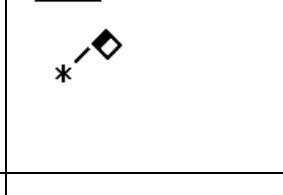
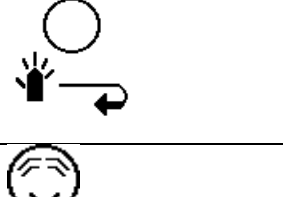

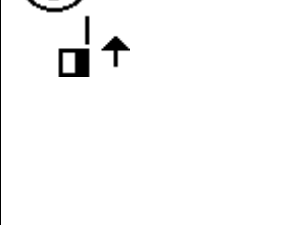
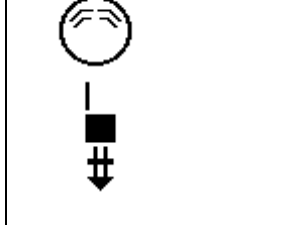
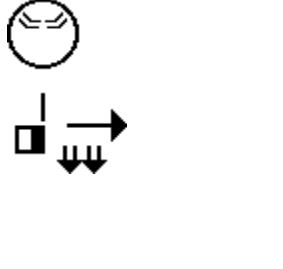
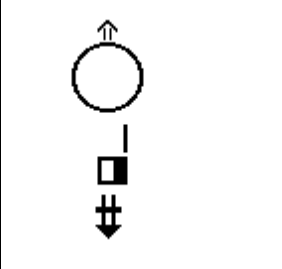
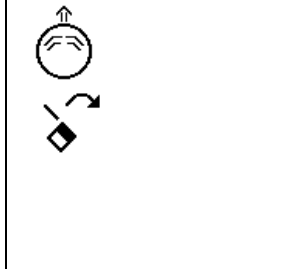
Due to the ambiguity caused by pointing signs, it was observed that the readers were unable to identify the meanings of several spellings that included an index handshape glyph and a movement glyph. Instead of reading YOU-SG, the readers would read THERE or a different person pronoun; instead of TODAY they would read I/ME etc. This confusion caused problems with reading the LSM texts.

Some examples taken from the texts of the irregular spellings of pointing signs can be seen in Figure 1. For the full analysis of pointing SW signs found in the LMAP see Appendix A.

³ I, the researcher, have been an active user of SW since 1998. SW was used as a notation for LSM data used in my undergraduate and Master's theses (Azzopardi, 2001; Galea, 2006) and for the production of children's stories in LSM and other writings- a project carried out by the Institute of Linguistics, University of Malta during 2008-2011 (cf. Galea, 2008).

⁴ SG. = SINGULAR

Figure 1: Ambiguous SW LSM pointing signs. All examples are taken from the LMAP.

| | | | |
|---------------------|---|---|--|
| 1 st per |  |  |  |
| |  |  |  |
| |  |  |  |
| |  | | |
| 2 nd per |  |  |  |
| |  |  |  |

| | | | |
|------------------------|--|--|--|
| | | | |
| 3 rd per | | | |
| | | | |
| | | | |
| ISSA (NOW) | | | |
| HAWN/HEMM (HERE/THERE) | | | |
| | | | |

| | | | |
|--------------------------------|--|--|--|
| DAN/ DAK (THIS/ THAT) | | | |
| | | | |
| DAWM (THESE) | | | |
| (ISFEL) SOUTH | | | |

From the LSM texts it is evident that there are no regular spelling patterns for pronominal points (see Figure 1 and Appendix A, 2. Pronouns). Sometimes the spellings for 1st, 2nd and 3rd person attempt to indicate the pronominal points by rotating the handshape to point to the signer's body (1st person), forward to point to 2nd person plural and to the left and right to mark 3rd person. The movement glyphs also are many times written to indicate movement backwards (to the signer, 1st person), forward (second person) and to the left and right (3rd person). These were attempts at regularizing the writing of the pronominal system during the writing of the texts.

At other times the graphical positioning of SW LSM signs in a vertical column influences the direction of the arrow glyphs and the rotations of the handshape glyphs that point towards the pronominal points (see Appendix A, 2. Pronouns).

Due to the irregular spellings the following section argues for a recommended glyph 'key' that helped in the disambiguation of these spellings and the reading of LSM texts.

From the difficulty of reading pointing signs, it was questioned how different LSM pronouns could be distinguished in written form. This would then pave the way for other SW distinctions related to the pronouns, mainly the writing of SW agreement verbs.

Pointing Signs and Ambiguity

Sign linguists (cf. Meir et al., 2007; Cormier, 2012) are aware of the highly ambiguous nature of pointing signs in natural signing. The data presented in Appendix A is evidence that the ambiguous nature of pointing signs is transferred into the written system of a language, LSM.

Cormier (2012) describes three main types of pointing signs: pronominals, determiners and locatives. Locative pointing occurs in real-life signing, since it involves pointing to real-life objects. Since the analysis here concerns the written form, there can be no locative signs.

Thus the ambiguity of pointing signs in the LSM texts was mainly between pronouns and determiners. Besides LSM pronouns, the following LSM signs involve index-finger pointing in the signing space: TODAY, TOMORROW, HERE, NOW, THERE, THIS, THAT.

Attempts to disambiguate between the similar SW forms

Attempts were made during the writing of the texts to disambiguate between the very similar forms of pronouns and determiners. Reason for attempting to change and modify the spellings was due to the observations of Deaf readers of the texts and their difficulty with these SW LSM signs.

One way of attempting to disambiguate between the SW form was by changing the handshape glyph's shading. In LSM pronouns that employ the index-finger, only two palm orientations are acceptable (see Figure 3 in this paper). An attempt was made to keep one orientation for the writing of one group of pointing signs (e.g. determiners) and another shading of the glyph for another group of pointing signs (e.g. pronouns). However even though this was carried out, no regular spellings were established during the writing of the LSM texts (see Appendix A).

Another way of attempting to disambiguate between the similar forms of pointing signs was by using different arrow glyphs for different groups of pointing signs. Once again no standard form was established during the writing of the texts (see Appendix A).

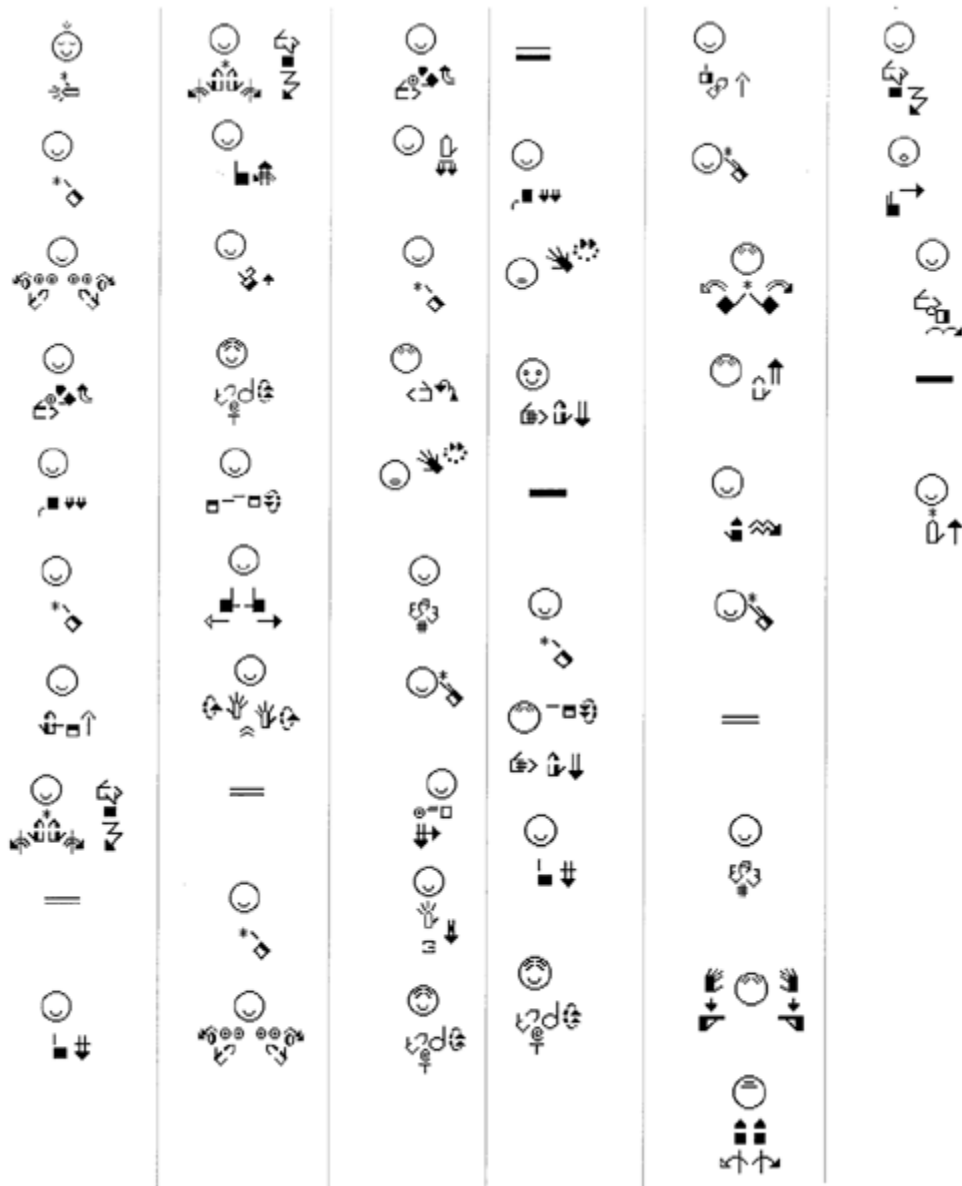
One final means of attempting to disambiguate between the similar glyph-forms was by using the head glyph. This is discussed in the following section.

Pointing signs and using SW head glyph as an anchor

In the SW LSM texts the head glyph is used when writing many pointing signs. This glyph seems to act as an anchor that helps bring out the spatial relationship between the hands and the body. In Figure 1 seen above the head glyph has almost always been included in the SW of the LSM signs.

The only other known LSM SW text not found in the LMAP is found in the LSM dictionary (Azzopardi-Alexander, 2003; 2004). Here a written introduction to the LSM dictionary was written in SW by one of the Deaf participants in the study. The writer of the text was aware of the importance of the relation of the hands to the body and included a head glyph for every sign/word (see Figure 2). The head glyph was also used to carry facial expressions. In this text the writer used the smile very frequently. This is possibly a stylistic feature of letter-writing. Stylistic variations in SW would be an interesting area of research for the future, but are not considered further in this work.

Figure 2: The forward message in the LSM Dictionary (2003) written in SW, Volume 1 (Azzopardi-Alexander, 2003) permission to use.



To further illustrate how pointing signs are not used systematically in the writing of LSM, the following pointing signs have been identified from the text in Figure 2:

- 1.
- 2.
- 3.

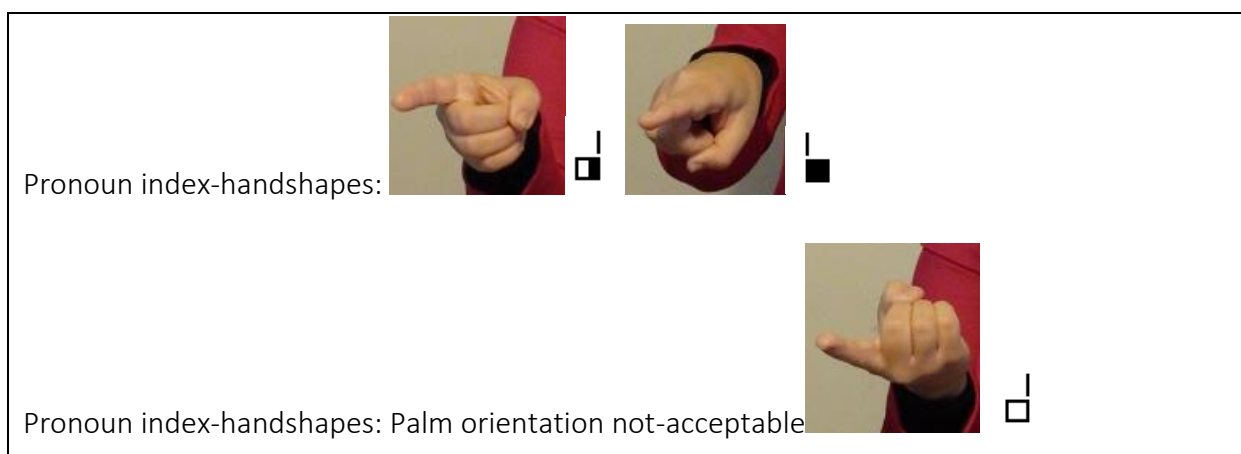
As a reader of this LSM SW text (Figure 2), it took a while to disambiguate between the different types of pointing signs and realise that the 1) refers is the SW LSM sign for I/ME, 2) NOW or TODAY, 3) FIRST. In fact there is no way of knowing whether SW sign 2) refers to NOW or TODAY. This is because both meanings are acceptable in context and the two LSM signs are homonymous. For such an example it might be useful to have a different spelling for each homonymous sign, in the same way that the English ‘then’ and ‘than’ are disambiguated in writing.

LSM Pronouns

An LSM pronoun is made up of a pointing hand⁵, i.e. an index finger and a location in the signing space that is used grammatically (Klima & Bellugi, 1979).

The handshape used for all person pronouns, except 1st person plural WE/US is the index hand and this is usually parallel to the floor. In SW the orientation of the palm is incorporated into the glyph (see Sutton, 2011). From the data of the LSM texts in the LMAP it can be seen that this orientation varies (see Appendix A, Pronouns). There are instances of index-finger palm facing sideways, and other instances of index-finger palm facing down (see Figure 3). There are never instances of palm facing upwards for pronouns. The handshape used for 1st person plural A#NA/ LILNA (WE/US) is a B-handshape.

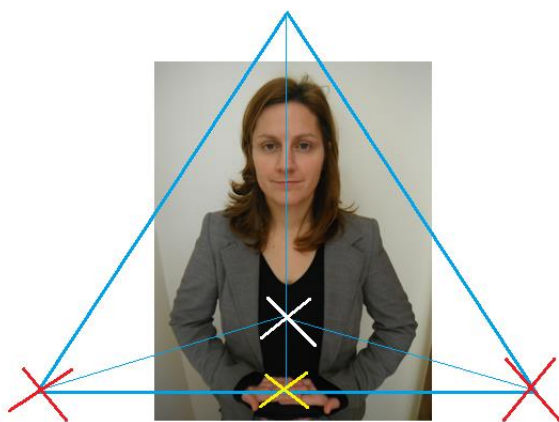
Figure 3: Index-Finger used in LSM pronouns with two variant orientations palm sideways and palm down) and one unacceptable orientation (palm up)



⁵ Except for 1st person plural where a B hand may also be used.

The second part of pronoun signs is the location parameter. Three person locations for LSM have been identified, based on Padden's (1990) framework. The first location for first person in LSM is on or close to the signer's chest. The location for second person is right in front of the signer's chest. As for third person there are two distinct 3rd person locations to the right and to the left of the signer's chest (Figure 4).

Figure 4: LSM Pronominal locations. Colour white: 1st person, yellow 2nd person, red 3rd person left and right.



The two third person pronouns can be referred to simultaneously without the ambiguity of pronominals in other languages such as English or Maltese. For instance in English the following utterance is highly ambiguous: *He gave him an apple and then he punched him.* Here it is clear that there are two 3rd persons however it is impossible to determine which 3rd person was punched. In LSM and other sign languages the referential points to the right and left would immediately disambiguate which 3rd person pronoun receives the punch. In LSM the same utterance is signed as:

1 a) APPLE 3-PER LEFT GIVE 3-PER RIGHT, AFTERWARDS 3-PER LEFT PUNCH 3-PER RIGHT

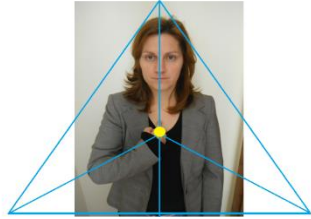
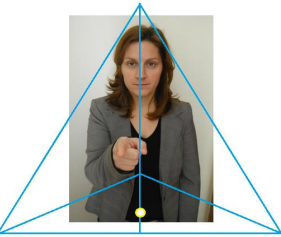
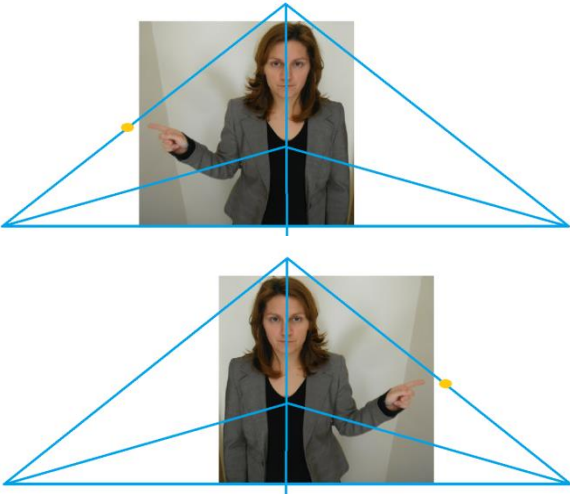
1 b) APPLE 3-PER LEFT GIVE 3-PER RIGHT, AFTERWARDS 3-PER RIGHT PUNCH 3-PER LEFT

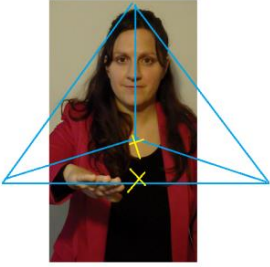
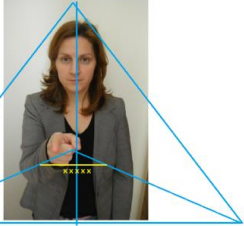
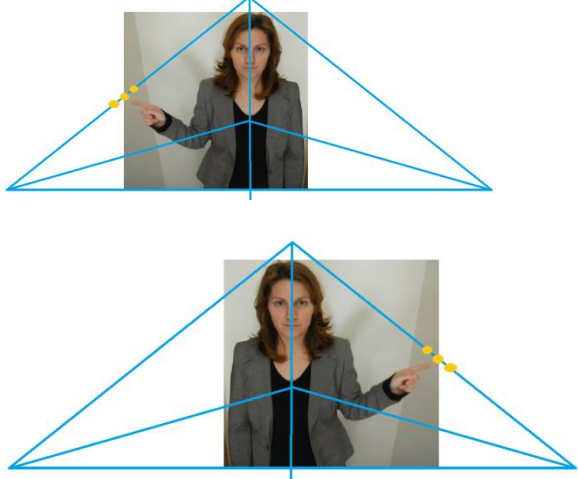
In examples 1a) and 1b) two agreement LSM verbs are employed: GIVE and PUNCH. These verbs have path movements that are directed to and from the two 3rd person points on the left and right. The start and end points of the path movements determine the giver (subject)

and receiver (object) of the action. In this way the pronominal reference of the two different 3rd persons remains clear throughout the utterances.

The actual LSM pronouns consisting of a handshape and pronominal point can be seen in Figure 5. LSM pronouns I/ME, YOU, SHE/HE/IT, YOU, THEY/THEM are realised when the index hand, parallel to the floor, moves to either one of the singular points, sweeps or bounces (from wrist movement) across a group of points in the 1st, 2nd and 3rd locations. A group of points, rather than a single point represents plurality. The 1st person plural pronoun WE/US is realised by the same sweeping movement over a group of points at the 1st person location, however this consists of a B-hand rather than an index-hand.

Figure 5: LSM person pronouns with diagram showing pronominal locations in the signing space

| GLOSS | SIGN |
|---|--|
| I/ME 1 st person singular |  |
| YOU sg 2 nd person singular |  |
| HE/HIM/SHE/HER 3 rd person singular |  |

| | |
|--|---|
| WE/US 1 st person plural |  |
| YOU plu 2 nd person plural |  |
| THEY/THEM 3 rd person plural |  |

SignWriting (SW) 'Key' to disambiguate LSM SW pronominals


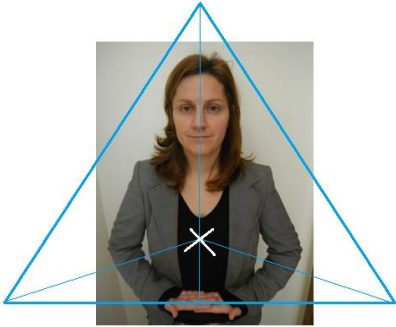

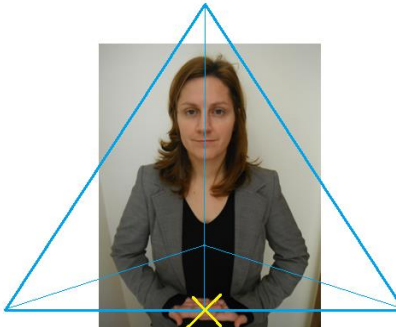

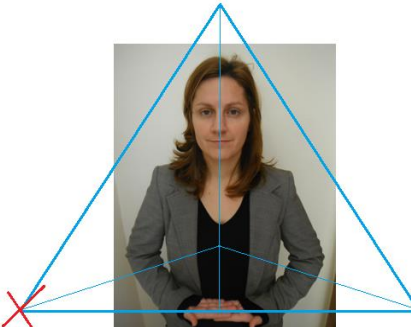
After understanding the difficulty with the reading of ambiguous SW LSM pointing signs a proposal to disambiguate the spellings was made. A 'key' to the writing of LSM pronominal points, and thus the writing of related LSM pronouns and agreement verbs is proposed here (Figure 6). This would help disambiguate between pronouns and other pointing signs in LSM and help with the reading of the LSM texts.


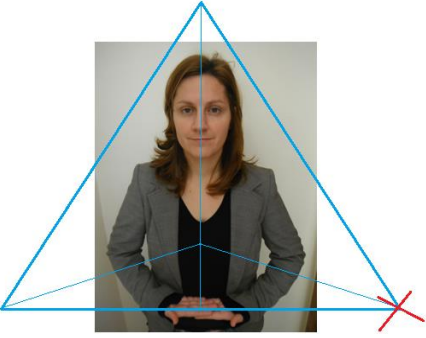
The shoulder and tense glyphs to represent the signer's body and pronominal points

In this work it is proposed, and has been confirmed as acceptable by Deaf readers, that the SW shoulder glyph **—** is used to represent the signer's body. This glyph is then marked with 1-person, 2-person and 3-person points with the tense glyph **~** so that the relationship

between the signer's chest location and the pronominal points becomes graphically clear (see Figure 6). The tense glyph \sim is also used in ASL writing to mark classifier handshapes that are positioned in space.

Figure 6: Pronominal points graphical key: the relationship between shoulder glyph and tense

| | | |
|---|----------|--|
|  | 1-PER |  |
|  | 2- PER |  |
|  | 3-PER rt |  |


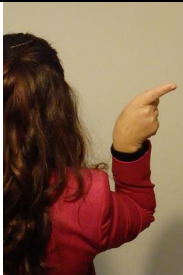


| | | |
|---|----------|--|
|  | 3-PER It |  |
|---|----------|--|




Choice of the shoulder glyph over the head glyph as anchor





The head glyph has been used to anchor the hands to the body and thus create a *relationship* between them. Deaf participants were not always able to read the intended pronoun despite the head glyph as anchor because both pronominals and other pointing signs employed the head glyph and thus there was no formal distinction was made between them. Additionally, the head glyph is often used to carry distinctive facial expressions in the sign, such as prosodic features, direct speech and even as a stylistic feature of certain written forms, such as the writing of a letter. The head glyph may thus be overloaded with markers if it is also assigned the role of an anchor to represent the relative position between the hands and the signer's body.

Additionally the SW rule is that the back of the head is represented by the head glyph, i.e. the SW head glyph is read expressively as though the reader is looking through this glyph (Sutton, 2011). Positioning glyphs in relation to the head glyph may result in the misinterpretation of the handshape glyphs as being on top of the head or to the sides of the cheeks (see Figure 7).

Figure 7: Possible reading interpretation if the head glyph is used as an anchor for pronominal points.

| Pronominal point spelling using head-glyph (instead of shoulder glyph) | Possible reading interpretation |
|---|---|
|  |  |
|  |  |

The SW shoulder glyph  seems to be read with greater ease. It was observed and confirmed in my previous work Galea (2014) that the SW handshape glyphs written visually ‘on top’ of the shoulder glyph, are read as occurring in front of the signer’s chest. The shoulder glyph  together with the pronominal point glyph  and the index-handshape glyph marking pronouns have been observed to help with the reading of the position of the hands at chest area.

On the basis of these arguments it was decided that the SW shoulder glyph would be adopted for the representation of the body and pronominal points in LSM. The pronominal point glyph adopted to represent 2nd and 3rd person was the tense glyph: . Contact on the chest area usually occurs for 1st person in LSM and so the contact glyph  was adopted to represent the 1st person pronominal point. It was suggested by a participant that the same tense glyph  is adopted to represent 1st person pronominal point in order to make the spellings of pronominal points more regular (see Galea, 2014). Additionally sometimes contact does not occur during 1st person affixing; rather the handshape moves close to or touches the signer’s body, thus the tense glyph  is a more accurate representation of this.

In the final recommendations to LSM writing the tense glyph ~ is recommended to be adopted as the glyph for all three pronominal points of LSM.

LSM pronouns written with SW 'key'





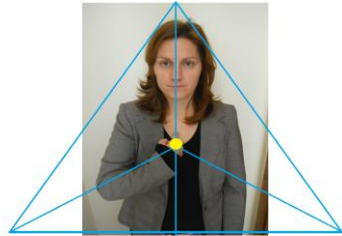

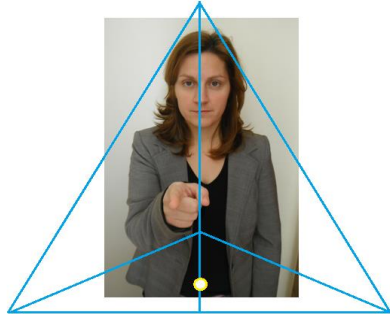

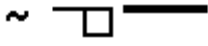
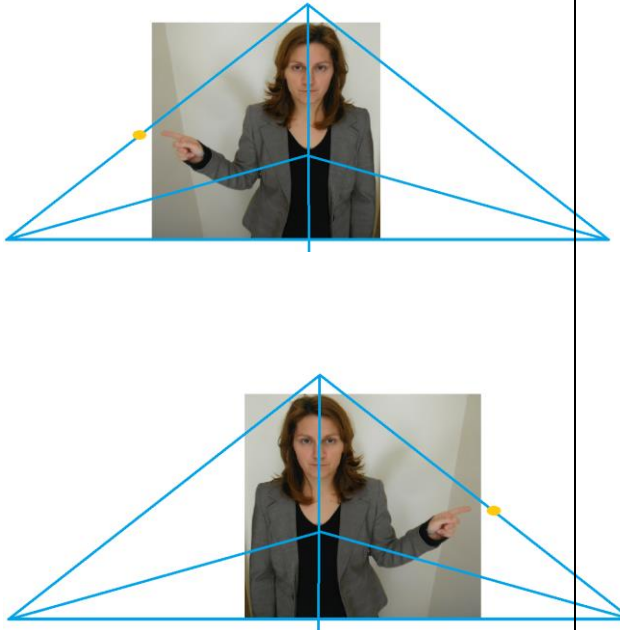

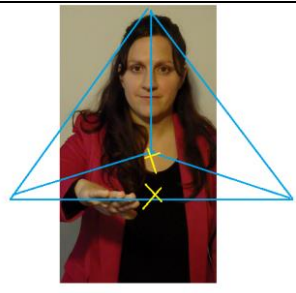

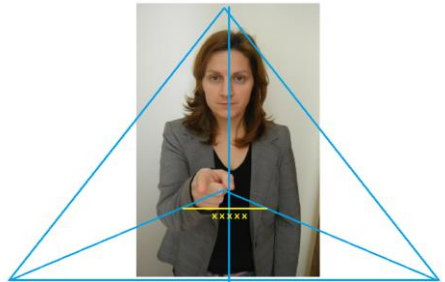
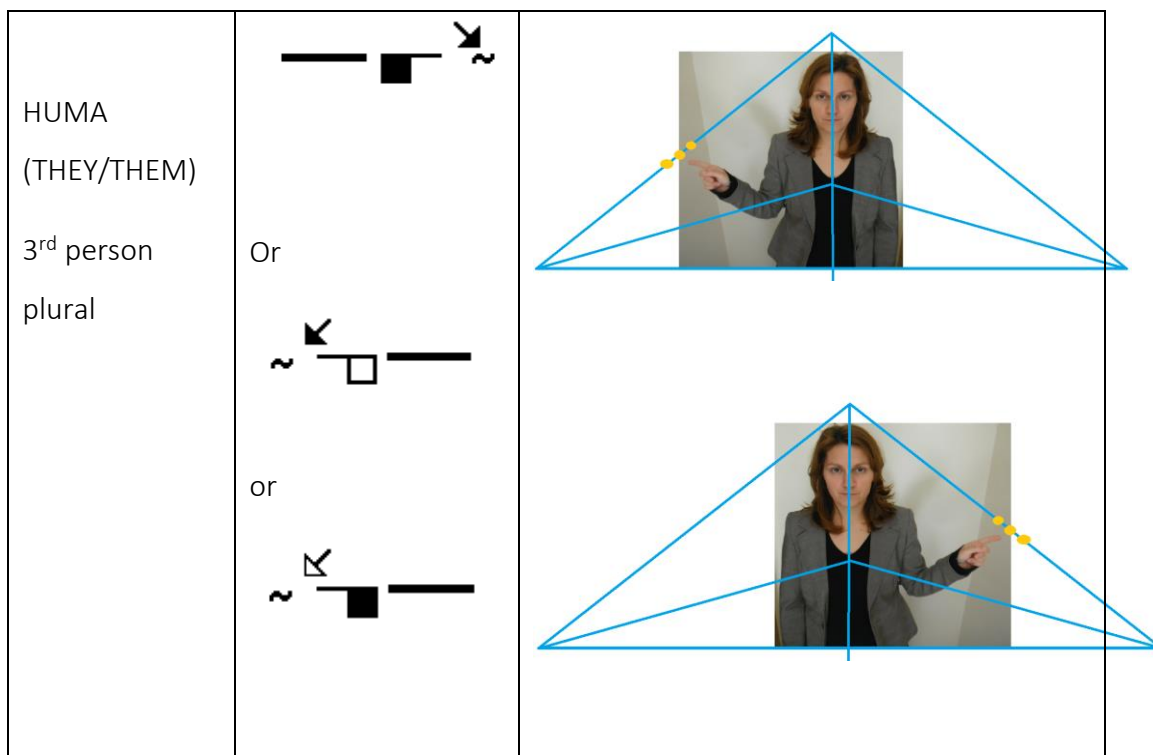
The representation of LSM pronouns using the shoulder glyph , the tense glyph ~ to mark the spatial locations and the handshape glyphs (index-hand and B-hand for LSM pronouns, e.g. ) can be seen in Figure 8. The shoulder glyph  together with the tense glyph ~ are the proposed key to the writing of LSM pronominal points.

Figure 8: Proposed framework for the representation of LSM Pronouns using relative positioning of the shoulder and tense SW glyphs

| Pronoun | SW Proposed Key | Image |
|-------------------------|---|--|
| JIENA (I/ME) 1PER-SG |  |  |
| INTI (YOU) 2PER-SG |  |  |

| | | |
|---|---|--|
| <p>HUWA/HIJA (HE/HIM/SHE/ HER)</p> <p>3PER-SG</p> | <p>  or  </p> |  |
| <p>AHNA (WE/US)</p> <p>1PER-PLU</p> |  |  |
| <p>INTOM (YOU)</p> <p>2PER-PLU</p> |  |  |



In Figure 8 it can be seen that 3rd person (singular and plural) right and left locations can be

produced with either the left or right hand .

Extension of the pronominal loci to agreement verbs.

The SW key to clarify LSM pronominal points in writing may then be extended to the writing of LSM verbs that involve pronominal affixing, i.e. agreement verbs (see Galea, 2014).

Discussion

Ten Deaf readers participated in this study (see more in Galea 2014). Their contribution to the finding strongly suggests that LSM consists of a three-person distinction that is marked in the grammatical space. The Deaf readers confirm that the spellings for LSM pronouns and related agreement verbs (Galea, 2014) could be read with much greater ease when the pronominal points were marked in written form.

Conclusion

This paper has presented the ambiguous SW spellings of pointing signs in LSM and has proposed that personal pronouns are marked in written form for spatial loci in order to distinguish them from other pointing signs in written form. An analysis of the readability of the LSM texts provides insights about the language LSM itself. It is argued here that the written form of sign languages is a new field that requires serious investigation, and that may provide a valuable contribution to our understanding of sign languages.



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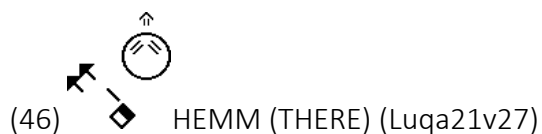
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Appendix A: Analysis of Pointing Signs from the Data of the LMAP (taken from Galea, 2014)


1. Pointing Signs that are not pronominals






The writing of pointing signs has often employed the straight movement glyph . Straight movement glyphs are less common than other movement glyphs. As can be seen in examples (46) to (49), different pointing signs have employed the straight movement glyph. All signs presented here are for the sign HEMM (THERE) however readers often read these as third person pronominal pointing. It was observed that the SW sign (49) that used the mouth-pattern of pursed lips  was read as HEMM (THERE) more easily than the others. It may be suggested here that this glyph is used to disambiguate and thus used solely for the sign HEMM (THERE).

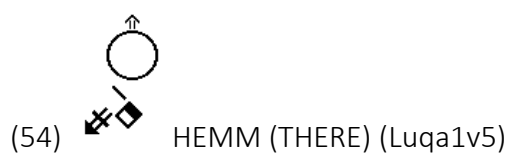
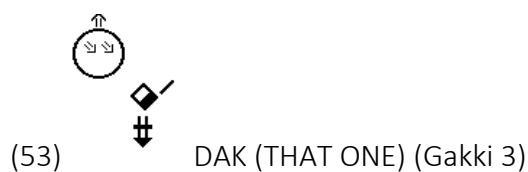


In (49) the spoken mouth-pattern glyph 'm' was used in an attempt to disambiguate HEMM (THERE) from other LSM pointing spellings.





Another arrow glyph used for the spellings of pointing signs is the down-forward glyph .


This arrow glyph has been used in spellings for HEMM (THERE) that has also used the straight movement glyph. Furthermore it can be seen that the index handshape has been rotated to the following positions , , and  (50-52),  (54), and  (55-57). The arrow glyphs have rotated to point to the right, left and centre lanes of the vertical column. The sign HEMM (THERE) was read more easily with the mouth-glyph that represents pursed lips similar to the 'm' sound.











(56) HEMM (THERE) (Luqa1v5)



(57) HEMM (THERE) (Luqa2v17)

Another movement glyph used for pointing signs is the down glyph . In (58) (59) and (60) it can be seen that there are double down glyphs used for the signs ILLUM/ISSA (TODAY/NOW). However this double arrow glyph was not enough to disambiguate this LSM sign from other index pointing signs.




(58) ILLUM/ISSA (TODAY/NOW) (Luqa2v11)




(59) ISSA (NOW) (Luqa2v29) In this writing a slightly different index handshape glyph was used in an attempt to disambiguate.




(60) ILLUM/ISSA (TODAY/NOW) (Luqa1v20)





(61) DAN (THIS) (Luqa12v23-24)

(62)  ISSA/ILLUM (NOW/TODAY) (Luqa1v7)

(63)  WERA B'SUBAJGH FUQ XELLUG (POINT TO UP RIGHT) (Peter 09)

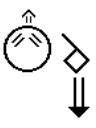
(64)  WERA ĠEWWA CL-DGĦAJSA (POINT INSIDE CL-BOAT) (Peter 14)

(65)  HEMM-ISFEL (DOWN-THERE) (Peter 15)

In examples (66), (67) and (68) slightly different arrow glyphs were used in an attempt to differentiate these spellings from the more common use of pointing signs HEMM (THERE), DAN/DAK (THIS, THAT). The spelling of REĠA (AGAIN) in (66) uses a forward and over glyph  . The spellings in (67) and (68) for ĠURNATA (DAY) and ISFEL (SOUTH) use a longer downward arrow  than (58-65).

(66)  REĠA (AGAIN) (Matthew2v20)

In (67) the handshape glyph is placed at the head glyph in an attempt to distinguish from other pointing signs.

(67)  ĠURNATA (DAY) (Barnuza Hamra 3)






(68) ISFEL (SOUTH) (Matthew2v1) Here a mouth-pattern was included to differentiate between other pointing signs.

2. LSM Written Pronouns

Pronouns are part of pointing signs but are presented here as a separate section. The lack of standard spellings for each pronoun is evident from the data shown here.

1st Person Singular

For all the signs JIENA (I/ME) the contact glyph has been used. The spellings listed, from the LMAP, for JIENA (ME/I) are quite similar to each other. One spelling of this sign (76) show the beginning of the use of the shoulder glyph. The index hand for all spellings is rotated to this position . The spellings in (69), (74), (75) and (76) use the handshape glyph is parallel to the floor , while in (70), (71), (72) and (73) the handshape glyph is parallel to the wall .



(69) * JIENA (I) 1ST PERSON PRONOUN (Luqa1v38)



(70) * JIENA (I) 1ST PERSON PRONOUN (Barnuza 17)



(71) * JIENA (I) 1ST PERSON PRONOUN (Gakki 6)




(72) * JIENA (I) 1ST PERSON PRONOUN (Nokk 07)




 (73) * JIENA (I) 1ST PERSON PRONOUN (Peter 17)



 (74) * JIENA (I) 1ST PERSON PRONOUN (Peter 30)



 (75) * JIENA (I) (Luqa15v21b)



 (76) * JIENA (I) (Mass 03 03; 04; 08)

1st Person Plural

The spellings for 1st person plural use the B-Hand. In (77) the end position of the hand is written. In (78) the open fingers B-Hand is used. In (80) the spelling includes the use of the shoulder glyph (see Section 10.5). The arrow glyphs used for the spelling of this sign are similar with slight variation in the size and length of rotation. In (80) a larger and fuller rotated glyph is used. (80) also makes use of the shoulder glyph (see Section 10.5).

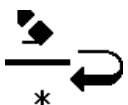


 (77) AĦNA (WE) (Liturgija 02)




 (78) AĦNA (WE) (Matthew2v2)



(79)  AHNA (WE) (Luqa3v10)


(80)  AHNA (WE) 1ST PERSON PLURAL (Salve 02)


2nd Person Singular


The index hand glyph used to write LSM second person singular is often rotated to this

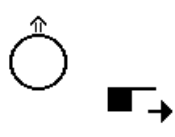
position  in an attempt to mark the 2nd person singular glyph. In (84) it is rotated to this


position  and in (87) it is rotated to . Arrow glyphs also differ in the spellings. At times the forward-down glyph is used and other times the forward arrow. It is discussed in Section 10.5 that the marking of person points in this manner is insufficient.


(81)  INT (YOU SG.) (Luqa1v43)


(82)  INT (YOU SG.) (Luqa1v44)


(83)  INT (YOU SG.) (Salve 04)

(84)  INT (YOU SG.) (Barnuza 27)

(85)  INT (YOU SG.) (Luqa1v20)



(86)  INT (YOU SG.) (Luqa3v11)

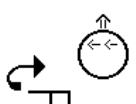
(87)  INT (YOU SG.) (Luqa2v35)

(88)  INT (YOU SG.) (Luqa1v14)


(89)  2 PERSUNA SINGULAR (2ND PERSON SINGULAR) (Barnuza Hamra 7, 8)

2nd Person Plural

Spellings for second person plural from the LMAP are various and not standard. In (90) and (91) the index handshape is rotated to point towards the left . In (92) it is rotated forward . Spellings in (91) and (92) use the shoulder glyph. In (90) and (91) the movement is a rotated-sweep while in (92) it is a bounce and straight movement that is used for plurality.

(90)  INTOM (YOU-PLU) (Luqa15v22)


(91)  INTOM (YOU-PLU) (Nokk 01)


(92)  INTOM (YOU-PLU) (Mass 03 09)

3rd Person Singular


The 3rd person singular pronouns is the highest frequently used pronoun in the LMAP.


Various spellings for 3rd Spellings for 3rd person singular found in the LMAP are presented here. Five different rotations for the index-handshape glyph used to spell 3rd person singular

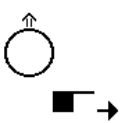
LSM pronouns can be found in the data: . Down-forward glyphs and forward glyphs are used interchangeably.


(93)  DIN (THIS ONE) (Luqa1v36)

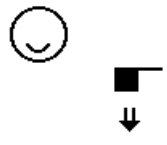
(94)  DIN (THIS ONE) (Luqa1v36)


(95)  DAN/HU (THAT ONE/HIM) (Peter 35)

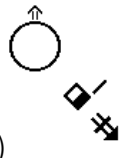
(96)  DAN or INT (THIS or YOU SG.) (Gakki 3)

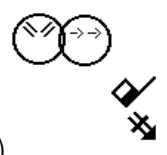
(97)  DAN/HU (THAT ONE or 3rd PERSON SG.) (Luqa10v37)

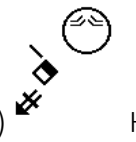
(98)  3 PERSUNA XELLUG (3rd PERSON LEFT) (Barnuza 5)

(99)  DIN/HI (THAT ONE or 3rd PERSON SG.) (Nokk 20)

(100)  HU/DAN (THAT ONE or 3rd PERSON SG.) (Gakki 8)

(101)  DIN/HI (THAT ONE or 3rd PERSON SG.) (Peter 01)

(102)  DAN/HU (THAT ONE or 3rd PERSON SG.) (Peter 17)

(103)  HU/DAN (THAT ONE or 3rd PERSON SG.) (Gakki 8)

(104)  HU/DAN (THAT ONE or 3rd PERSON SG.) (Gakki 9)

(104)  HU/HI (HE/SHE 3RD PERSON SG.) (Luqa2v23)

(105)  HU/HI (HE/SHE 3RD PERSON SG.) (Peter 14)

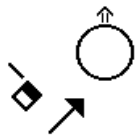


(106) ■→3 PESUNA SINGULAR (3RD PERSON SINGULAR) or DAN (THIS)

All these spellings are highly ambiguous and almost identical to the spellings for other pointing signs. The spellings could thus read as 3rd person singular or other signs such as DIN,DAN/DIK,DAK (THIS/THAT).

3rd Person Plural

The movement involved in 3rd person plural pronoun spellings is a sweeping straight movement. Feedback from the Deaf indicates that the preferred movement is 'bounce' since this is a closer representation. This glyph also appears to be an adequate SW plurality marker for LSM signs. An attempt at marking 3rd person plural with a shoulder glyph can be seen in (109).



(107) HUMA (THEY 3RD PERSON PLURAL) (Luqa2v12)



(108) ■ HUMA (THEY 3RD PERSON PLURAL) (Zarbun 07)

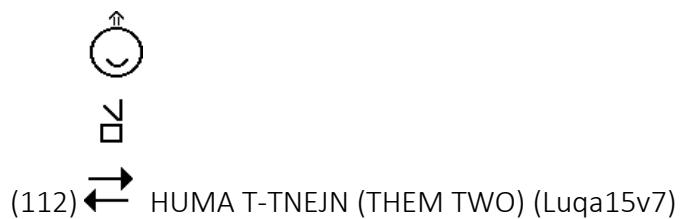


(109) HUMA (THEY 3RD PERSON PLURAL) (Luqa2v9)

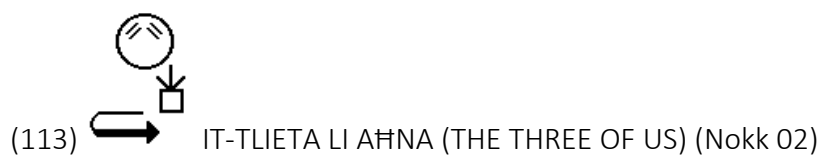
Dual/Triple Pronouns

In the LSM texts the following SW signs were used to mark dual and triple pronouns. The use of vertical placement of signs to the left and right lanes of the vertical column resulted in these spellings. In SW vertical spatial comparisons, often one referent is placed on the right lane, another on the left. When using the dual pronoun (110) and (111) to refer to these two

referents the hands are then positioned in the middle lane and the arrows indicate movement towards both the left point and the right point.



The pronoun IT-TLIETA LI AĦNA (THE THREE OF US) was used in the LMAP (113). Here the same movement glyph as was used for the spellings of first person plural (77)-(80) was used while the handshape was modified to the handshape glyph representing number three in LSM.



Possessive Pronouns

Possessive pronouns in LSM consist of a closed fist that moves to the pronominal points (Section 10.2.2 for more).

Second person possessive pronouns are usually written with the handshape glyph facing forward as in (114) to (117). However in (118) the handshape is rotated slightly and in (119) the palm faces the side and the movement glyph indicates movement to the left side.



(114) ■ ↑ TIEGHEK (YOURS) (Liturgija 03)



(115) ■ ↑ TIEGHEK (YOURS) (Luqa1v36)



(116) ~ ■ TIEGHEK (YOURS) (Luqa15v31)



(117) ■ ↑ TIEGHEK (YOURS) (Luqa15v21b)



(118) — TIEGHEK (YOURS) (Salve 04)



(119) ← ■ TIEGHEK (YOURS) (Luqa15v19)

The spellings of TIEGHI (MINE) (120)-(123) follow the pattern of the writing of 1st person singular pronouns, where a contact glyph is used to indicate contact with the signer's body. The palm of the handshape glyph faces the signer. This is the opposite orientation of the handshape glyph for 2nd person possessive pronoun.




(120) ◆** TIEGHI (MINE) (Nokk 17)



(121) ◆** TIEGHI (MINE) (Nokk 16)



(122) ~ ◆** TIEGHI (MINE) (Luqa15v31)



 (123) ** ◊ (Luqa2v29)

DNUB-TIEGHI (124) also uses this pattern with a contact glyph showing contact on the signer's body. It is unclear whether this sign is pronominal or verbal. Subject-pronoun JIENA (I) precedes it. The facial-intensity marker may suggest that it is verbal, because this morpheme is also found attached to WE-Classifier verbs and carries the meaning of INTENSITY of movement.



 (124) █# DNUB-TIEGHI HAFNA (MY-SIN A LOT) (Mass 03 03)

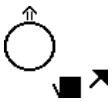
The spellings for 3rd person possessive (125), (126) and (127) found in the LMAP show movement towards a left and right location. (125) uses the up-forward glyph since the location is not at chest level but at head-level and so the glyph indicates this.



 (125) TIEGHU/TA' ALLA (HIS/HERS OF GOD) (Luqa2v23)

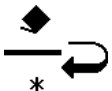


 (126) ~ ⤵ (Luqa15v27) TIEGHEK (YOURS) 3RD PERSON SINGULAR



 (127) TIEGHU/HA (HIS/HERS) (Luqa1v8)

The spelling of TAGHNA (OURS) IN (128) follows the same pattern of spelling of 1st person plural pronouns and 1st person plural pro-triple (113).



 (128) * TAGHNA (OURS) (Salve 02)