Jordanian sign language: aspects of grammar from a cross-linguistic perspective
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Chapter 2: Sign language varieties in Jordan and the Middle East

In this chapter I present the results of lexical comparisons using wordlists collected from ten different places in the Middle East. Although lexical comparisons by themselves are not sufficient to allow for definite conclusions about language relatedness, it is interesting to see the lexical differences and similarities between sign language varieties in the Middle East.

I will start this chapter by making some brief comments on the history of sign languages in the Middle East, including current attempts to unify Arabic sign languages (Section 2.1). Section 2.2 discusses the data and methodology on which the analysis is based. It describes the process of data collection (Section 2.2.1), the choice of the wordlist used (Section 2.2.2) and the analysis of the data (Section 2.2.3). Section 2.3 discusses the results of the lexical comparisons and their interpretation. Section 2.4 concludes this chapter.

2.1 The history of sign language in the Middle East

No research has been done on the age or history of sign languages in the Middle East. The only published source on this subject is Miles (2000), which deals with signing at the court of the Ottoman sultans in the 16th and 17th century and is based on reports by European visitors to the Ottoman court. Miles has found that

“Deaf people, known as ‘mutes’, worked in the Turkish Ottoman court from the fifteenth to the twentieth century in various roles along with dwarfs and other entertainers. Their signing system became popular, was used regularly by hearing people including successive Sultans, and was reportedly capable of expressing ideas of whatever complexity.” (Miles 2000:115).

Unfortunately, it is not known to what extent modern Turkish Sign Language (Türk İşaret Dili, TID) is related to this sign language used at the Ottoman court. If it is related, TID would be one of the oldest sign languages we are aware of worldwide. The Ottoman Empire stretched out across the Middle East and included Jordan. It is, therefore, possible that there has been mutual influence between the sign languages used in Turkey and in the Arab

25
world. This, however, remains speculation since no written sources are readily available.

The fact that hardly any research has been done into either the historical background of or the variation between the sign languages in the Middle East has resulted in the mistaken idea that there is, or at least should be, one standard Arabic Sign Language for Deaf people in the Arab world. According to Abdel-Fattah (2005) this is due to the diglossic nature of Arabic. Since Arabic consists of one standard language which is understood across the Arab world as well as a wide variety of vernaculars, Arab scholars think that there should likewise be a standard sign language which can be understood across the Arab world. Abdel-Fattah (2005:213) points out that “[p]eople and scholars outside the Deaf communities cannot appreciate the idea of having other sign language vernaculars”. The idea, launched by a group of medical specialists in Syria, that Deaf Arabs need a common sign language that functions as a standard language in the same way that Modern Standard Arabic functions as a standard language among hearing Arabs has led to attempts to create a ‘unified Arabic Sign Language’ over the past 10 years or so. According to Abdel-Fattah (2005) these attempts have been unsuccessful so far. Because this project was not informed by linguistic considerations and documented facts about the sign languages in the region, the ‘unified Arabic Sign Language’ is merely a list of signs compiled from different Arab sign languages in an artificial and communicatively unacceptable way. Still, the approximately 1200 signs from the unified Arabic Sign Language dictionary are used on pan-Arab television channels, like Al-Jazeera, and in some Arab countries (like Syria) the use of these signs is enforced in schools for the Deaf. In the light of these attempts to unify Arab sign languages, it is all the more important to have some comparative data of the different sign language varieties used in the Middle East. In fact, a recent lexical study conducted by Al-Fityani (2007) comparing sign language varieties from Jordan, Palestine, Kuwait, Libya and the Al-Sayyid Bedouin community comes to the conclusion that these languages are too far apart to be standardized (cf. also Al-Fityani and Padden 2008). She states that

“[t]he underlying assumption [in the project to unify sign languages of the Arab world] that sign languages of the region are similar enough to be standardized may in fact be wrong. It may be risky to devise a ‘standardized’ sign language in the Arab world, given the difficulty of standardizing languages that are historically unrelated.” (Al-Fityani 2007:11-12)

More studies like the one by Al-Fityani are needed to be able to make an informed decision about standardization. These studies should preferably not
just look at lexical relatedness but also at other linguistic features, such as grammatical structure.

2.2 Lexical comparisons: Data and methodology

2.2.1 Data collection

In order to find out more about the relationships between sign language varieties used in different countries in the Middle East, I collected 14 wordlists during 2003 and 2004. Most of these wordlists were elicited and recorded on video, but for two wordlists I made use of existing digital dictionaries (note that Al-Fityani (2007) used published dictionaries in her comparative study; for the use of dictionaries in lexical comparisons cf. Johnston (2003)). Wordlists were collected from six different countries in the Middle East (Jordan, Syria, Iraq, Yemen, Egypt and Turkey) and from Brazil, which – given that the Brazilian Deaf use as a completely unrelated sign language – was included as a control.

In Jordan, three lists were elicited at the HLID in Salt from three different students and one was elicited in Amman. Two of the students in Salt (Salt 2 and 3) were sisters and two of them (Salt 1 and 2) were in the same grade at school. These three lists were used to determine what percentage of signs would be the same for two Deaf people who use the same dialect. For Syria, the elicited list represents the dialect used in Aleppo, in the North of the country. Both lists elicited in Iraq are from Baghdad. The lists compiled in Yemen are from three different towns in different parts of Yemen: the capital Sana’a, the Southern city of Aden (former capital of South Yemen) and the Eastern city of al-Mukalla. The lists from Egypt are from Cairo (for which a CD-rom dictionary was used) and from al-Minya in Upper Egypt. The list from Turkey partly consists of signs that were found in an on-line dictionary of TID signs (http://turkisaretddl.ku.edu.tr) and was supplemented by Dr. Zeshan of the MPI, who provided some of the signs that were not available in the on-line dictionary. Both groups of signs represent the dialect of Istanbul. The Brazilian wordlist was elicited with the help of an interpreter from the Sao Paulo area of Brazil. The geographical spread of the wordlists was mainly motivated by the availability of informants and (excluding the one from Brazil) is shown in Figure 2.1:
There is no good standard word list available for lexical comparison in sign languages. A list commonly used for lexical comparisons in spoken languages is the Swadesh wordlist of 200 basic concepts. This list was designed by Morris Swadesh in the 1940-50s as a first step to determining the relatedness of two spoken languages or dialects on the basis of the percentage of cognates. The basic concepts included in this list are those learned in early childhood, because these are assumed to change very slowly over time, making it more likely to find cognates in languages that are quite distantly related. The Swadesh list, however, has been found to be unsuitable for comparing sign languages. Woodward (1993:16) comments:

“While it is common to use the original 200 word list Swadesh used to compare for cognates across spoken languages, it is not generally
desirable to use the same list for sign language research, because its use may result in slight overestimation of the relationship of closely related sign languages, moderate overestimation of the relationship of loosely related sign languages, and great overestimation of the relationship of historically unrelated sign languages. These overestimations are due to presence in the original 200 word Swadesh list of many items (e.g. body parts and pronouns) that are represented by pointing in sign languages. The comparison of indexic signs results in a number of false potential cognates.”

Woodward (1978) adapted the Swadesh list, excluding indexic signs, but his list of 100 words is still problematic when comparing sign languages, because it contains many words that potentially elicit iconic signs. The presence of a large number of words that elicit iconic signs in a wordlist can lead to high similarity scores between two unrelated sign languages, and is therefore not helpful in establishing the relatedness of two different sign languages. McKee and Kennedy (1999) used the list adapted by Woodward when comparing BSL, Australian Sign Language (Auslan) and New Zealand Sign Language (NZSL), but cautioned that comparisons based on this list revealed a much higher degree of overlap between the three sign language varieties than comparisons based on a random selection of signs taken from a sign language dictionary.

In order to avoid chance similarities due to iconicity, the wordlists collected for this research were based on a wordlist that was created by participants at a sign language linguistics course at the University of North Dakota (UND) in 2002 (cf. Appendix A). The participants in this course worked on different sign languages across the world. The aim was to come up with a list of words that would be suitable cross-culturally and could be used to determine relatedness (on the lexical level) between sign languages. The wordlist was designed such that there would be 200 words on a main list, with extras for words that might turn out to be problematic in a specific language. Half of these words should be easily obtained monolingually, with the assistance of pictures and props, the other half would have to be obtained bilingually, using a written language known by the Deaf informants. The words were arranged in a careful sequence to make it easier for participants to understand what is requested, and easier words were placed at the beginning of the list to build confidence. Words were grouped together by semantic domain, that is, similar or opposite meanings were presented subsequently. Some supplemental wordlists, which present words in systematic sets, were included as optional. Appendix A shows which of the words chosen were also used by Woodward, and in addition lists the words that were used by Woodward but were excluded in this study.
The choice of words in the list was motivated by the assumption that their signed translation would be unlikely to be identical or highly similar across unrelated sign languages, so that similarities would be likely to be the result of relatedness rather than chance. Since the course participants worked on different unrelated sign languages from around the world, it was possible to determine which signs were similar in many different sign languages and to avoid the corresponding words. Moreover, only words were included that were unlikely to yield a variety of responses from different people within the same linguistic group, and that would be usable in Deaf communities around the world, that is, words that are not geographically restricted or offensive to certain groups. An attempt was made to include only words that were not derivationally related to other words on the list and that were unlikely to be borrowed from other (spoken or signed) languages.

The list I used was slightly adapted from the UND wordlist and consisted of a total of 214 words. Half of those were elicited monolingually by means of pictures taken from an Arabic-Dutch picture dictionary. The other half was elicited by means of Arabic (or English) words. Additionally, I used some supplemental lists with the numbers 0-10, the days of the week, the names of several Middle Eastern countries and some Islamic and Christian religious words. In total 252 words were elicited. The final list that I used for lexical comparisons, however, only contains 185 signs (Appendix B). Sixty-seven words were excluded for various reasons. Thus, from each of the supplemental lists I chose three or four words each, so as not to include too many members of a systematic set (e.g. all seven days of the week). This reduced the number of signs to 228. Other words had to be excluded because the Arabic word which was meant to elicit the sign turned out to be too difficult and most of the signers did not recognize it. Some of the words elicited by means of pictures were excluded, too, because there did not seem to be a standard sign, and all signers (including those from the same dialect) produced a different sign (e.g. TAIL, FEATHER). Finally, words were excluded when all signers (including the one from Brazil) produced the same or a very similar sign (e.g. TELEPHONE, APPLE), because this was considered to be due to general iconicity rather than being an indication of lexical relatedness.

Although the number of signs that were finally compared was 185, not all signers signed all words. Some signers did not have a very good command of Arabic and were not able to sign some of the words on the bilingual list. One signer (the al-Minya wordlist) hardly knew any Arabic, so

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5 It is interesting that Johnston (2003:63) mentions some of these same words, which also occur in Woodward’s list, and argues that they also appear to be weakly lexicalized, if at all, in the dialects he was comparing and possibly also in ASL.
only the monolingual list was used. Where a dictionary was used, the total number of words depended on which signs were available in the dictionary. Thus, the number of words that were finally compared differs somewhat per wordlist. In the table that specifies the lexical similarity scores (Table 2.1) the number of words compared is given with the percentage of lexical similarity.

2.2.3 Data analysis
All recorded wordlists were glossed in Signstream®, and signs were analyzed according to three parameters: handshape (hs), location at the beginning of the sign (loc), and movement (mov). In this respect, the study differs from the one by Al-Fityani (2007) who added the parameter of orientation. For every sign, a description of these three parameters was entered into Toolbox. Signs from the different signers were then compared with respect to these three parameters. If all three parameters were the same between two signers, the signs were considered identical and given a score of one point. If two out of three parameters were the same, the signs were considered similar and given a score of half a point. If less than two out of the three parameters were the same, the signs were considered different and a score of zero was given (cf. McKee and Kennedy (1999) who used a similar way of scoring word pairs, but also included hand orientation as a fourth parameter). The total number of points between two wordlists was divided by the number of signs compared, and this gave the percentage of lexical similarity.

For the sake of illustration, Figures 2.2 to 2.5 show the sign MOUSE as signed in four different varieties, with their toolbox entries. The sign from Jordan-Salt3 (Figure 2.2) scores half a point when compared to both Jordan-Amman (Figure 2.3) and Iraq-Baghdad1 (Figure 2.4), because the handshape is different but the location and movement of the signs are the same. Jordan-Amman and Iraq-Baghdad1 have a similarity score of one, because all three parameters are the same. Yemen-Mukallax receives a similarity score of zero compared to the three other varieties, because both the handshape and the movement differ from the signs produced by the other three signers.

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These parameters were considered to be the basic phonological parameters of a sign by Stokoe (1960), although since then other parameters, such as orientation and non-manual features, have been added.
Following a similar study conducted in India and Pakistan (Zeshan 2000a), slight differences in handshape, such as whether or not the thumb is
Chapter 2: Sign language varieties in Jordan and the Middle East

extended, or the degree of bending of selected fingers, were disregarded. Also, extension or bending of non-selected fingers, as in the handshape \( \text{\textbullet} \) versus \( \text{\textbullet} \) was disregarded because these hand configurations were all considered to be phonetic variants. In contrast to Zeshan (2000a), however, in the present study the number of fingers that are extended if all the fingers are lined up was treated as relevant (e.g. \( \text{\textbullet} \) and \( \text{\textbullet} \) were considered two different handshapes). Also, Zeshan disregarded variation in local movement (e.g. bending vs. wiggling of fingers), whereas such variations (unless they were very minor) were counted as different movement types in the present study. When comparing compounds, Zeshan counted words that had at least one of the component parts in common as the same. In the present study compounds which had one part in common were counted as similar and given a score of half a point. All in all, the criteria for comparison were stricter than those applied in Zeshan’s (2000) study. In the present study, presence or absence of a non-dominant hand was considered to be non-contrastive if both hands were specified for the same time of movement in neutral space (symmetrical or alternating; Battison’s (1978) type I signs). If, however, the non-dominant hand functioned as a base-hand on which the dominant hand produced a sign (Battison’s (1978) type II and III signs), the location entered was ‘non-dominant hand’. A variant sign without the base-hand would have a different location (e.g. neutral space). Presence or absence of a base-hand would thus cause two otherwise identical signs to be scored as ‘similar’ rather than ‘identical’ (in contrast to Johnston (2003), who considered presence or absence of a base-hand as non-contrastive).

Signers were only asked to produce one sign for each word on the list. Theoretically, it would have been possible to ask signers to produce all signs they knew for every word. Johnston (2003) collected different variant forms of signs and scored two signs as identical in each of two sign languages if at least one variant form in one sign language matched at least one variant form in another sign language. If the same method had been used in this study, lexical comparison scores would have been much higher, since signers in the Middle East are often aware of more than one sign for a given word, whether or not they use it in their own dialect. Consequently, eliciting more than one sign per word would have made the task of comparing these fourteen wordlists almost impossible because of the size of the data pool.
2.3 Results and interpretation of lexical comparisons

2.3.1 Results

The percentages of lexical similarity (in bold), together with the number of signs compared (in italics) are given in Table 2.1:

<table>
<thead>
<tr>
<th>185 words (non-iconic)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jordan-Salt1</td>
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<tr>
<td>Jordan-Salt2</td>
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<tr>
<td>Jordan-Salt3</td>
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<tr>
<td>Egypt-alMinya</td>
<td>37%</td>
<td>39%</td>
<td>39%</td>
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<tr>
<td>Egypt-Cairo</td>
<td>36%</td>
<td>37%</td>
<td>36%</td>
<td>61%</td>
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<tr>
<td>Yemen-Aden</td>
<td>43%</td>
<td>45%</td>
<td>44%</td>
<td>36%</td>
<td>42%</td>
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<tr>
<td>Yemen-Sana’a</td>
<td>42%</td>
<td>44%</td>
<td>43%</td>
<td>49%</td>
<td>64%</td>
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<tr>
<td>Yemen-Mukallah</td>
<td>42%</td>
<td>42%</td>
<td>43%</td>
<td>47%</td>
<td>45%</td>
<td>67%</td>
<td>66%</td>
<td></td>
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<tr>
<td>Syria-Aleppo</td>
<td>61%</td>
<td>60%</td>
<td>61%</td>
<td>35%</td>
<td>43%</td>
<td>38%</td>
<td>41%</td>
<td>40%</td>
<td></td>
<td></td>
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<tr>
<td>Iraq-Baghdad1</td>
<td>51%</td>
<td>53%</td>
<td>53%</td>
<td>32%</td>
<td>34%</td>
<td>37%</td>
<td>41%</td>
<td>40%</td>
<td>51%</td>
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<tr>
<td>Iraq-Baghdad2</td>
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<tr>
<td>Jordan-Amman</td>
<td>74%</td>
<td>73%</td>
<td>74%</td>
<td>36%</td>
<td>37%</td>
<td>42%</td>
<td>43%</td>
<td>46%</td>
<td>60%</td>
<td>53%</td>
<td>52%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>25%</td>
<td>25%</td>
<td>24%</td>
<td>19%</td>
<td>18%</td>
<td>20%</td>
<td>16%</td>
<td>24%</td>
<td>21%</td>
<td>25%</td>
<td>21%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td>13%</td>
<td>13%</td>
<td>13%</td>
<td>5%</td>
<td>7%</td>
<td>10%</td>
<td>9%</td>
<td>10%</td>
<td>11%</td>
<td>9%</td>
<td>10%</td>
<td>15%</td>
<td>11%</td>
<td></td>
</tr>
</tbody>
</table>

Table 2.1: lexical similarity scores
As expected, the percentages of the lexical comparisons from the same dialect (Salt 1-3) are the highest, with similarity scores of 93-95%. In most cases, differences between these signers were caused by different interpretations of the pictures on the monolingual list. For a picture of an infant, for instance, one signer signed BABY whereas another signer signed CHILD. The Brazilian control wordlist shows by far the lowest similarity score. In comparison with the Egyptian (al-Minya) wordlist, the percentage is as low as 5%, which shows that the wordlist has succeeded in reducing the role of iconicity as an intervening factor. The scores between these highest and lowest scores are the most interesting. The Turkish list, with a range of 16-25% similarity with the other lists, scores somewhat higher than the Brazil list. There are indeed some striking similarities between Turkish signs and those used in the Arab world. The sign YEAR, for instance, is made by tapping the teeth with the index finger in all the lists from the Arab world because the word “year” in Arabic is orthographically identical to the word “tooth”, both being spelled سنة. Similarly, in TİD the sign YEAR is made by tapping the mouth with the index finger, even though in spoken Turkish there is no similar relationship between “tooth” and “year”. It may be that such similarities are caused by Arab influence during the Ottoman period, but this remains speculation.

Looking at the percentages within countries, we see that between Salt and Amman (which are only about 30 kilometres apart) there is about 74% lexical similarity. The three lists collected in Yemen show a similarity of 64-67%, and the two wordlists from Baghdad have a similarity score of 62%. Similarly, the varieties from Egypt (Cairo and al-Minya) have a 61% similarity score. Hence, all these varieties within countries show a score of more than 60%. In addition, the list from Aleppo (Syria) shows 60-61% lexical similarity with all the lists from Jordan. Other scores between different countries are lower than 60%. Syria and Iraq, as well as Iraq and Jordan, have similarity scores in the low fifties. Yemen appears to be more distantly related to all the other lists from Arab countries with percentages in the forties and high thirties. Compared to most other countries in the Middle East, Egypt has scores in the thirties. Egypt and Yemen have somewhat higher similarity scores, possibly because in Yemen many teachers in schools for the Deaf are Egyptian.

Although Al-Fityani (2007) used a methodology somewhat different to the one described here, her results from a comparison of Palestinian, Kuwaiti and Libyan Sign Language to LIU seem to fit nicely into the above table. In her study the varieties in Jordan and in Palestine score 58% similar. I would have expected these two languages to score somewhat higher (over 60%) because of the close historic ties between Jordan and the West-Bank and the fact that many people living in Jordan have relatives in the
Palestinian areas. However, the lower score may be due to the fact that Al-Fityani used printed dictionaries rather than material on video. It is interesting to note that most of the differences Al-Fityani found between Palestinian and Jordanian Sign Language are due to the movement parameter, which is exactly the parameter that would be obscured when looking only at pictures of signs. On the contrary, Al-Fityani’s scores for Kuwaiti and Libyan Sign Language are somewhat higher than I would have expected on the basis of my study. In Al-Fityani’s study Kuwaiti Sign Language has a 40% similarity score with LIU, which makes it about as related to LIU as Yemeni Sign Language. Libyan Sign Language scores 34% compared to LIU, which is similar to my scores for Egypt in comparison with LIU. Because Kuwait and Libya are both further removed from Jordan geographically than Yemen and Egypt, I would have expected these scores to be lower. The higher scores probably result from the fact that Al-Fityani did not try specifically to eliminate iconic signs, as I did in my survey. This difference in methodology would cause more distantly related languages to look more similar to LIU, but would not have as much effect on a closely related language like Palestinian Sign Language.

2.3.2 Interpretation of results

Although lexical comparison by itself is not sufficient for a detailed analysis of language relatedness, it seems clear from the above results that there is some relationship between the different sign language varieties in the Arab world. Higher similarity scores within countries than between countries were expected, especially since many of these countries have sign language interpretation on television once a day, which may be assumed to have some standardizing influence. This expectation is borne out nicely by the percentages. Percentages of 60% may seem very low, especially when compared to lexical comparison scores in related spoken languages or dialects, but this may be caused by the way signs were analyzed and the fact that words were chosen in such a way as to avoid iconicity or chance similarities. Zeshan (2000a) notes that the criteria for comparing sign languages need to be less strict than those for spoken languages, because sign languages typically have a lot of lexical variation and can still be mutually intelligible. Zeshan’s in-depth survey in India and Pakistan did not only consider lexical similarity and mutual intelligibility, but also grammar.

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7 According to Crowley (1992) the lexicostatistical standard (for spoken languages) defines languages as dialects if they share 81-100% of cognates, as different languages of the same language family if they share 36-81% of cognates, and of different families of the same stock if they share 12-36% of the same cognates.
Her lexical similarity scores range between 60% (Calcutta-Calicut) and 90% (Karachi-Kashmir). The fact that the latter score is so high is partly caused by the fact the signer from Kashmir did not sign all the words on the list and therefore the number of lexical items to be analyzed for Kashmir was quite small. Zeshan’s conclusion, taking into account mutual intelligibility and grammar, is that the sign language varieties in India and Pakistan are all dialects of the same language. The fact that her similarity scores go up to 90% whereas in the present study the highest score (disregarding the three scores from Salt) only reaches 74% may partly be caused by the stricter phonological criteria that were used in the present study, as has been explained in Section 2.2.3, as well as by differences in the number of signs that were compared.

From my own observation, mutual intelligibility between the different varieties in the Arab world appears to be quite high. This is even true between countries like Jordan and Egypt which in this survey show scores of only about 35% lexical similarity. A tentative suggestion would be to classify varieties with a 60% or higher score as dialects of the same language. This would mean that the varieties attested within a given Arab country are all dialects and that in this sample not more than one sign language per country has been found. It would also imply that Syria and Jordan have the same sign language with only dialectal differences. The varieties used in Lebanon and the Palestinian areas are not included in this survey but also show a lot of similarity to the sign language used in Jordan and Syria. They might therefore also be included in this sign language, which Hendriks and Zeshan (forthcoming) refer to as Levantine Arabic Sign Language. Two sign language varieties with a lexical similarity score of 30%-60% should probably be considered different but related sign languages. Anything below 30% is probably unrelated, although there may be some mutual influence through language contact.

2.4 Conclusion

In contrast to Al-Fityani’s (2007) conclusion that different sign languages in the Arab world are unrelated, my lexical comparisons of sign languages used in Arab countries of the Middle East reveals that all these languages are related to each other, albeit to different degrees. This divergence does not seem to be caused by methodology as much as by the interpretation of the results. Al-Fityani holds to the lexicostatistical standards used for spoken languages, whereby two varieties need to be at least 81% similar in order to be considered dialects of the same language. As explained above, I do not consider these standards adequate for sign languages, and propose that 60%
would be a more appropriate threshold. A threshold of 81% would make the sign language varieties of Salt and Amman different languages, even though mutual intelligibility between these two varieties is very high.

The fact that such different conclusions can be reached on the basis of lexical comparisons shows that a more in-depth survey is necessary in order to make definitive claims about whether different sign languages are dialects of the same language or rather different related languages. Such a survey would have to take into account sociolinguistic factors, as well as mutual intelligibility and grammatical similarity. To be on the safe side, and because the research in this dissertation focuses on the sign language used in Jordan (specifically the dialect of Salt), I will continue to use the term LIU in the remainder of this book. This is not to say, however, that LIU itself may not be a dialect of a regional sign language that could be referred to as Levantine Arabic Sign Language. More research into the sign language varieties and the sign language communities of the Middle East is needed to be able to make this distinction.