

PLACE NAMES IN ISRAELI SIGN LANGUAGE

by

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To my loving parents Charles and Erna Revilla,  
to the Deaf all over the world,  
to sign language Bible translation teams all over the world,  
and to all Jews who have dreamed of returning to their ancestral land

## ABSTRACT

One of the obstacles in translating the Hebrew Scriptures into sign language is the lack of signs for Biblical places in most sign languages of the world. What solutions are there? One possibility is to borrow existing signs for Biblical places from another sign language, particularly from Israeli Sign Language, since Israeli Deaf already have signs for the places where they live.

There is a trend towards borrowing foreign place name signs (toponyms), especially when a language does not have a sign. This research provides a corpus of Israeli Sign Language (ISL) toponyms for ninety-two place names, documenting in photos most of the existent ISL place names for Biblical places and modern cities in Israel, along with sign etymologies. Three native Israeli Deaf are the experts videotaped for this research.

I provide an analysis of ISL toponym structure, borrowed elements, and semantic content and a summary of a methodology which can be applied to study the toponyms of other sign languages.

Single morpheme signs are the most common structure in ISL toponyms. When an ISL place name includes a generic sign, usually this element occurs first. Most complex signs have borrowed elements, and

simple loan translations are the most common borrowed element in the complex signs. ISL toponyms are named after things typical of spoken languages as well, the two largest classes of semantic content being environmental and historical, followed by a smaller class with etymologies based on people and other place names.

# CHAPTER 1

## INTRODUCTION

Names of historical places are more like artifacts than any other type of word in a language since in context each is strongly attached to the place it refers to. As such, place names have a direct connection to historical reality and preserve interesting clues about the culture of those who use the names. Conceiving of place names as artifacts gives a picture of how one language may “borrow” a place name from another, a historical process which has been occurring for probably as long as more than one language has ever existed. Onomastics is the study of names, and in this field, toponym is the technical term to refer to a place name, a proper name that refers to a place.

Toponyms in different sign languages have a variety of structures and naming patterns, as well as trends towards incorporating elements from other languages, both spoken and signed. As Deaf people in a given country have had increasing contact with Deaf people from other countries, this incorporation of place name signs from one sign language

to another has become more common, especially when a sign language does not already have a sign for those places.<sup>1</sup> Documenting and analyzing place name signs, a valuable task in itself, gives evidence of the richness of sign language structure and the resourcefulness of those people, particularly the Deaf, through whom sign languages have developed.

## **1.1 Toponym background**

The philosophical, linguistic and onomastic study of names has a long history going back to the ancient Greek philosophers: Permenides, Plato and Aristotle. Anderson (2007:132) notes:

Permenides' association of use of a 'name' with the existence of a referent, and Plato and Aristotle's concern with names as referring to particulars rather than universals (denoted by lexical classes), were codified by the Stoics as a distinction that was translated into Latin as a distinction between *proprium* vs. *commune* ('proper' vs. 'common'). This is the starting point for

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<sup>1</sup> "Deaf" beginning with the capital letter "D" refers to Deaf people who use sign language and are part of a distinct community of signers who value their language and culture. The term "deaf" beginning with a small "d" generally refers to a physical condition of having a major loss of hearing.

the philosophical tradition of concern with names—along with the grammatical identification of names and nouns.

One of the primary difficulties in grappling with proper names is in determining the kind of meaning they do and do not possess. John Algeo, former president of the American Name Society, Dictionary Society of North America, and the American Dialect Society, as quoted by Barnhart (1975:177-178) says, “A proper name is primarily any word X whose meaning can be expressed as ‘entity called X.’” Barnhart adds, “Proper nouns differ from common nouns because their meanings are not parallel: a proper name results from an act of name-giving [to one entity]; a common noun is a name that summarizes essential characteristics of a creature belonging to a class of creatures.”

Much of the study of proper names actually falls within the scope of pragmatics more than semantics because of the inherent quality of reference. As Cruse (2004:329) states, naming is one of the “three ways a speaker aids a hearer in selecting the appropriate referent”—the other two ways being describing and pointing.

Proper names are quite different from regular nouns in that they refer to only one entity, whereas common nouns, because of their primarily descriptive rather than referential nature, may refer to any of a class of entities denoted by the common noun. In other words, proper

names apply to specific individuals, whereas common nouns refer to groups of individuals.

Cruse (2004:328) points out that proper names “[f]unction to individuate members of large sets of similar entities, to distinguish which by means of descriptions would be either cumbersome, if sufficient details were known, or impossible, if they are not known.” He goes on to say, “[r]eferring by means of a proper name is much more economical than referring by means of description” (p. 329).

The concept of a name is indeed a most clever invention, and as such we are reminded again about the image of an artifact. Herrick (1983:271-272) approaches place names from the perspective of the social scientist who may:

[c]onsider them as cultural artifacts. Just as potsherds, projectile points, and other material artifacts from an earlier age may be used by archeologists to make reasoned inferences about cultural items and patterns no longer visible, so the social scientists may use names as artifacts and by their analysis gain understandings and make inferences about cultural patterns which are of larger interest and which otherwise would be elusive.

## **1.2 Background on place name signs**

Many toponymic studies have focused on written place names; a less researched area is that of non-written place names. Sign languages are for the most part still considered non-written languages; however, as technology increases and Deaf education is improved, they may with time develop written forms. Sign language writing systems currently exist, but they are not yet in widespread use in any sign language.

Also, among sign language studies, many articles have been written on personal name signs (proper names referring to people); only a few exist which specifically focus on how sign languages handle toponyms. That is why I am focusing on these sign language place name studies here. These references focus on the following sign languages: American Sign Language (Rasmussen 1999), British Sign Language (Sutton-Spence & Woll 1998), Chinese Sign Language (Yau & He 1987), Deutsche Gebärdensprache (German Sign Language) (Heßmann 1996), Estonian Sign Language (Paales 2002), Israeli Sign Language (Shunary 1968) and Nihon Syuwa (Japanese Sign Language) (Peng & Clouse 1977). There are also brief mentions of signs which refer to particular place names or ethnicities in a few newspaper articles as well as journal

articles devoted mainly to people name signs.<sup>2</sup> In this section I report on American, British, German, and Japanese Sign Languages. Shunary 1968 (on Israeli Sign Language) is reviewed in section 5.3.

### *1.2.1 American Sign Language*

Rasmussen (1999) is a website that documents variations in place name signs used in American Sign Language (ASL). Some countries have several name signs which coexist in ASL. Signed English has had a strong influence in the educational arena as it motivated the creation of initialized signs.<sup>3</sup> Examples of these are: DENMARK, FINLAND, NORWAY, and SWEDEN. These signs are articulated in front of the forehead as the hand makes small circles with its handshape representing the first letter of the name of the country. More recently, new country signs have been borrowed from the sign languages of those countries. For example, the new sign for Norway, which is an initialized sign, represents mountains which become increasingly higher. The handshape which represents the letter N moves from neutral signing

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<sup>2</sup>Not all these articles have been available to me. As far as I know, the article on Estonian Sign Language (Paales 2002) has not been translated into English, and I have not been able to find a copy of the article on Chinese Sign Language (Yau & He 1987). I am grateful to a colleague who translated Heßmann (1996) into English for me.

<sup>3</sup> Initialized signs are explained in depth in section 4.1.2.

space on the non-dominant side, upward and diagonally towards the dominant side ending at shoulder level.

Rasmussen (1999) describes three tendencies that ASL exhibits, each relating to a different kind of place: 1) for countries—the borrowing and subsequent modification of native signs, as noted above; 2) for most states—the fingerspelling of the letters which represent the state abbreviations used before zipcodes were instituted (for example, A-R-K for Arkansas); and 3) for many cities—initialized signs which are one-handed signs usually made with the handshape representing the first letter of the city name in English, making a sweeping movement tracing the number “7” in neutral signing space.<sup>4</sup> Oddly enough, the website does not list any city signs which exhibit this trend. However, it does include the “7” sign for Texas which uses the X handshape.<sup>5</sup> This website also lists some state signs as fingerspellings of the newer state abbreviations which are used in the postal system today. Rasmussen notes, “There is such a wealth of regional variations—not to mention register—that this is a fascinating part of ASL and deserves further study.”

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<sup>4</sup> For an in-depth description of fingerspelling, see section 4.1.1.

<sup>5</sup> CHICAGO, DETROIT and PHILADELPHIA are examples of “7” signs. City name signs can also be abbreviated fingerspellings, such as Los Angeles (L-A), or initializations such as MILWAUKEE.

### *1.2.2 British Sign Language*

Sutton-Spence & Woll (1998:233) state that in British Sign Language (BSL), some place name signs are instances of metonymy, that is, they are named after “something associated with the place.” For example, PARIS is named after the Eiffel tower, DERBY after the Derby Ram, SHEFFIELD after a type of knife which represents the cutlery industry there, NOTTINGHAM after Robin Hood’s bow and arrow, and SCOTLAND after bagpipes (p. 233).

They also state that some place name signs in BSL are borrowed from the sign language of the country of that place. Some examples are MILAN borrowed from Italian Sign Language, NEW\_YORK from ASL, COPENHAGEN from Danish Sign Language, and MUNICH from Deutsche Gebärdensprache (German Sign Language). This type of borrowing occurs “even if there are also well-known, commonly used BSL signs (as for example, there is for New York)” (p. 233).

A third kind of place name sign in BSL is the loan translation of English words that make up a place name, and variations exist in this category. An example of an exact loan translation is NEWCASTLE which is made up of the sign NEW followed by the sign CASTLE. A partial loan translation may be “based either on the written word, or on an approximation of the spoken component;” for example, the name sign

PRESTON is the ordinary sign for PRIEST, BRISTOL is signed as PISTOL or PETROL, and WORTHING is signed as WORTH (p. 234).<sup>6</sup>

A fourth kind of place name sign in BSL includes either partial or complete fingerspelling. If an English place name includes a word for which there is a sign, for example FIELD or NEW, then the sign for that word is used. Then the other part of the English place name, which does not have a sign, is a manual letter. For example, “Sheffield can be signed -s-FIELD, Montrose can be signed -m-ROSE, and Holberrow can be -h-BARROW. New York and New Zealand combine the sign NEW with a fingerspelled letter in NEW-y- and NEW-z-” (p. 234).

In BSL, familiarity of the signers with the place names is an important factor that affects communication. Sutton-Spence & Woll note that during the first mention of a non-local place, or whenever doubt exists about the referent, it is fully fingerspelled one time at least (p. 233). This occurs even when the signer knows the place name sign. It is not clear from the article whether or not fingerspelling is included along with the sign or if only fingerspelling is used at the first mention.

Place name signs that are only known locally, for example BEDMINSTER or FISHPONDS (two places in Bristol), would not be used

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<sup>6</sup> Some variations exist in BSL that are not documented in Sutton-Spence & Woll 1998.

with signers who were not from the local area and who would therefore be unfamiliar with the sign. Communication with outsiders would require the use of another sign or fingerspelling. To use the local place name signs with outsiders would be thought of as poor manners, unless it were first clarified that these were in Bristol, an area more likely to be known to the outsiders (p. 233).

Another technique that signers often use with place name signs is to follow them by pointing towards the nearby places, or by pointing to a relative point on an imaginary country map in the vertical plane in front of the signer (p. 233).

### *1.2.3 Deutsche Gebärdensprache*

Heßmann (1996) focuses on place names for towns, villages, mountains, rivers, etc. From ten Deutsche Gebärdensprache (German Sign Language) (DGS) signed texts, Heßmann gathered 72 names. He found that fingerspelling was hardly used in the name signs; there were only four occurrences of the use of a handshape representing the first letter of the name, and no completely fingerspelled signs.<sup>7</sup> Instead, there seems to be a fair amount of mouthing of the spoken place name accompanying the manual sign.

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<sup>7</sup> The dearth of fingerspelled place name signs in DGS is not surprising given that fingerspelling in general is not that common in DGS (Leven & Mugdan 1987).

#### *1.2.4 Nihon Syuwa*

Peng & Clouse (1977) categorize Nihon Syuwa (Japanese Sign Language) (NS) place names according to several different criteria: “1.) simple vs. compound signs; 2.) unique vs. nonunique signs; and 3.) independent vs. borrowed signs” (p. 297). The terms unique vs. nonunique refer to how the signs are distributed within the whole NS system: whether they are used only as proper names or in other parts of the lexicon as well. “Those whose occurrence is restricted to Place Names are classed as Unique Signs as opposed to Nonunique Signs that appear in a broader range of environments as signs designating a more general referent or class of referents in addition to their specialized function in Place Names” (p. 297).<sup>8</sup> One characteristic that distinguishes unique signs from nonunique signs is that unique signs do not have uses as common nouns.

Place names in NS have undergone substantial borrowing. Peng & Clouse deal with borrowed names by adapting a linguistic model by Haugen (1950) into a six-category division: independent sign, direct borrowing, loanshift, loanblend, combination of independent and direct borrowing, and combination of independent and loanshift (pp. 297-298).

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<sup>8</sup> Some unique signs can be used as personal name signs in addition to referring to places.

### **1.3 Borrowing toponyms from other sign languages**

As mentioned above for ASL and BSL, many Deaf communities are adopting the same signs to refer to place names in foreign countries as are used by Deaf people in those countries. Bar-Tzur (1999a) reports, “If the concept is from a foreign culture, you may find it helpful to borrow a foreign sign from that culture. For example, Deaf people are increasing their use of foreign countries’ signs for themselves and their cities, rather than the old ASL signs (which are sometimes seen as pejorative).” Thus, for example, in recent years the sign that has historically been used in the United States for Japan has largely been replaced by a sign which was borrowed from NS.

There seems to be a value in using the same sign for a particular place in many different sign languages, rather than each sign language inventing signs for foreign place names. This not only facilitates communication between Deaf people in different countries, but it also strengthens their sense of community. The more people they have to communicate with, the larger their community. The issues of identification and solidarity are very important, especially in minority language communities. Further, a part of this solidarity is giving respect to other Deaf by deferring to the judgment of those who live near a place to pick the most appropriate sign for that place, hence to borrow foreign place name signs from the foreign region’s sign language. Such signs are often referred to as “indigenous” signs, i.e., those that are native to a

particular region. This also occurs with spoken languages; one example is the use of the name Mumbai in English instead of Bombay for a major city in India.

Bar-Tzur (1999b) observes that due to Deaf international sports events; Deaf tourism; Deaf Way and other international conferences for Deaf people; and Deaf involvement in the Peace Corps and in other international events and activities, there has been increasing cross-cultural contact between Deaf and signing individuals from different countries. This cross-cultural contact appears to be a primary reason for the increased use of indigenous signs.

In a dictionary of ASL signs of the Jewish Deaf community, several borrowings of name signs from Israeli Sign Language (ISL) are noted. Shuart (1986:xii) explains:

During the process of researching this book, many people asked for Israeli signs, requesting that the author check with Israel for their signs. However, American Sign Language is older than Israeli Sign Language and many signs have already been developed and become traditional signs. Similarly, there have been inquiries regarding “Jewish Sign Language”. There is no Jewish Sign Language as there is no “English Sign Language”. There is British Sign Language, American Sign Language, and Israeli Sign Language, among others....There are borrowed signs, though, especially those that are name signs in Israel.”

In the chapter on 'Biblical and Jewish places and history', Shuart (1986:19) lists those name signs borrowed from ISL into ASL: Beersheba, Bethlehem, Hebron, Jerusalem and Syria. These signs are illustrated as line-drawings and account for six of the fourteen illustrated place name signs. The sign for Syria includes 2 different signs from ISL.

## **1.4 Goals of this toponym research**

In this section I describe some of the goals and benefits of the research reported in this thesis, along with some of the motivations behind the research.

The first goal is to provide new linguistic research in an area not often mentioned in sign language linguistics—toponyms. The growing field of sign language linguistics has provided an impetus towards a greater understanding of language. Comparing languages of different modalities, spoken and signed—even in a relatively small area of linguistics such as toponyms—brings to light interesting parallels as well as major differences between the two.

The second goal is to provide much needed affirmation of the validity of a minority language, reinforcing the linguistic rights of Deaf people. Appreciation of or interest in a person's language, the most unique characteristic of human beings, is appreciation of the person himself. Much can be done for the rights of the Deaf through the validation of and subsequent promotion of sign languages.

The third goal is to discover how Deaf signers in Israel refer to the places mentioned in the Tanach. Place names in Israel have a long and rich history. Since Deaf people in many parts of the world have an interest in this history—as they read the Tanach (the Bible, the Hebrew Scriptures)—a study of these place names would be of interest to Deaf people all over the world. This was mentioned briefly in section 1.3 with regard to the borrowing of place name signs from ISL into ASL (Shuart 1986:19).

The fourth goal is to provide language documentation. Languages, a significant part of humanity's heritage, are worthy of documentation. A few dictionaries and other material listing signs in Israeli Sign Language (ISL) have been published over the years, including Shunary (1968), Savir (1992) and Bar-Tzur (XXXX), but these do not include the majority of place names in Israel. Therefore it became necessary to work with Deaf signers from Israel, to learn their signs for local place names. This thesis provides photos of ISL toponyms in appendix C. This vocabulary list can be used by Deaf people; educators; sign language interpreters learning and working in schools, universities and businesses in Israel; and by hearing people with whom the Deaf relate.

This thesis also provides language documentation for Bible translators. A growing number of Deaf and hearing individuals are translating the Tanach into their sign languages and finding that signs do not exist in their sign language for most of the place names mentioned

in it. One possible way of handling this situation is to borrow existing signs for Biblical places from other sign languages, particularly from ISL since Israeli Deaf already have signs for the places where they live.

A fifth goal is to encourage the translation of the Tanach into the different sign languages of the world and to encourage those seeking to expand access to sign literature in the many existent sign languages. A people's language, culture and history are preserved in its literature, passed down from one generation to the next, either expressively (verbally or in sign language) or in a written form.

If for some reason that bridge from one generation to the next is broken, as is common when a deaf child is born to hearing parents, too often the reality is that some of that language, culture and history will be lost to the next generations. This is a serious concern, as nine out of every ten deaf children are born to hearing parents and do not have exposure to a complete language from birth. That means that they cannot fully hear or understand the spoken language. It also means that even if parents try to learn a sign language, the time it takes for them to become fluent in the new language may cause a delay in the child's exposure to a fully formed language. In other words, there may be a delay in language learning.

It is not always easy for parents to learn sign language as adults. For parents interested in passing on their heritage and history as recorded in the Tanach, it would be helpful to have a complete

translation of the Tanach in sign language. Unfortunately, a complete translation of the Tanach into any sign language is not yet available—in ISL or in any other sign language in the world.

## 1.5 Development of new signs

As mentioned in section 1.4, those who are translating the Tanach into sign languages are finding that most place names mentioned do not have corresponding signs in their languages. One method which can help the situation is to borrow ISL signs for those place names. When a biblical place name does not have a corresponding ISL sign, then two other possible solutions are to fingerspell the place name or to invent a new sign. Fingerspelling is not an option in many sign languages as they may not have a fingerspelling system.<sup>9</sup> Even if a language has a fingerspelling system, it is not generally a practical solution. The other option is to create new signs. In some cases, this is what translators are doing.

Different sign languages are experiencing the need for an expansion of their vocabulary. ISL and Greek Sign Language are just two of the many sign languages representative of this fact. Meir & Sandler (2008:46) have noted and foresee the following:

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<sup>9</sup> For more on fingerspelling systems, see section 4.1.1.

Under certain circumstances, the vocabulary of a language can be under pressure to increase dramatically in a short time. This is what happened when Hebrew was transformed from a language of prayer and religious study to an ordinary language, used daily by all members of a society in every conceivable communicative situation. We are now witnessing a similar vocabulary explosion in ISL, as the circumstances in which it is used expand beyond the home and insular social group, to the school; the media, through interpreting television news; and academia, as more and more Deaf students enter universities.

Meir & Sandler (2008:208-209) note another factor which is leading to the expansion of ISL. In 1991 a Deaf child's mother, Hagit Gur, "petitioned Israel's Supreme Court to allow her son the right to study in a regular class with ISL interpreting. Her petition was granted, and her son, along with a number of other deaf children his age, was provided with simultaneous interpreting services from an interpreter who was fluent in ISL." An increasing number of schools are providing interpreting for the Deaf as it is now "official Ministry of Education policy: every deaf and hard-of-hearing pupil in junior high school and high school receives a stipend that can be used for interpreting services, tutoring or transcription" (p. 209).

Kourbetis and Hoffmeister (2002:42), who describe Greek Sign Language (GSL) people name signs, state the following:

Because GSL has been mandated for use in schools and programs serving Deaf children, name signs for historical and contemporary figures and name signs for places of historical and cultural significance will be needed. As Deaf education improves, a corresponding increase in knowledge about Greek, both in print and spoken, will influence the Deaf community's creation of new signs.

As more educational opportunities open up for the Deaf for higher studies at the university level, especially in subjects that include place names such as Geography, History, and Tanach, there will be an increasing need for the development of a large number of new place name signs in order to facilitate interpreting and the accurate communication of classroom teaching.

A look back at the amazing history of Modern Hebrew, briefly mentioned above by Meir & Sandler (2008), is encouraging. The Jewish scholar Eliezer Ben Yehuda (1858-1922), known as the father of the Modern Hebrew language, settled in the area in 1881 and “dedicated himself to the revival of Hebrew as the national language” (The Columbia Encyclopedia webpage 2008). He decided to speak only Hebrew in his home with his family. Many new words have been added to Modern

Hebrew since then, many following Ben Yehuda's trend of maintaining the connection to the three consonant root letters which carry a general meaning which can be related to any of the words which include them. With such an amazing history of the development of Modern Hebrew in Israel, it is exciting to imagine what the people of Israel will do in promoting the use of ISL as well.

## **1.6 Chapter topics**

This thesis is composed of three main parts: introduction, analysis and conclusion. The introduction includes the present chapter, of course, and continues with chapter 2, which presents the research procedures that I followed to collect and analyze my data on ISL place name signs. The second part presents the analysis and looks at ISL toponyms from three main perspectives: structure (chapter 3), borrowed elements (chapter 4) and semantic content (chapter 5). The last part is the conclusion (chapter 6).

## CHAPTER 2

## RESEARCH PROCEDURES

In this chapter, I describe the research procedures that I followed for this thesis. In section 2.1 I describe how I prepared the word list for collecting ISL place name signs for places in Israel and surrounding areas, with primary focus on words used in the Tanach, the Hebrew Scriptures. In section 2.2 I describe procedures for selecting consultants, fluent Deaf signers of ISL. Section 2.3 notes the consultants' responses to interviews on sociolinguistic factors that are generally known to affect language knowledge and use, particularly those that affect sign languages. In section 2.4 details are given for the elicitation process for the signs, their etymologies and component parts. In section 2.5 I give some basic technical details regarding the programs used to process and analyze the videoclips. Lastly, in section 2.6 I explain the process that I went through in arriving at an analysis of the signs according to their structure, influence from other languages, and semantic content.

### **2.1 Preparing word lists**

To compile the wordlists for this research, I started with a fairly exhaustive database of proper names in the Bible. Then I extracted from

it separate lists, each list for only one category of geographic feature, such as mountains, or rivers, etc. I did this to help the consultants recognize which places I was referring to, by asking for all cities together in one list, all rivers in the next, and so forth. The final printouts of place names were nine numbered charts with the place names written in Hebrew and in English.<sup>10</sup> I used these charts for the purpose of elicitation of the place name signs.

Categories of geographic features which I included are listed below, with the number of words per category, totaling 924:

- 1) Rivers (17) – also included places listed as a stream
- 2) Valleys (21)
- 3) Mountains (31) – also included places listed as a hill or mount
- 4) Areas (11)
- 5) Lands (26) – places larger than areas or regions; ethnicities
- 6) Regions (37)
- 7) Fortified towns (15)
- 8) Other locations (260)
- 9) Cities, towns, and villages (506)

The category of city, towns, and villages does not distinguish between these three terms, and the decision to group them in one

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<sup>10</sup> Specifically in a Biblical Hebrew script.

category was made due to time constraints when putting together the initial word lists which included 506 of these particular place names. Even though the distinction was not made, this does not mean that the distinction is unimportant when talking about relative sizes or qualities of the Biblical or modern cities, towns or villages being discussed. Distinguishing properly between these terms, might turn up data on more specific generic terms in ISL. One would have to look at the Biblical Hebrew terminology for these places to make sure that the proper distinctions are made, before making separate lists, and presenting them to Deaf consultants.

A few geographic categories that I extracted by typing in different generic terms, had only one place name in them, and these I did not include in the lists that I showed the consultants. They were not included mainly due to time constraints, and the incrementally larger time frame that would have been required to customize a large number of small categories. At the time I did not think to include them in the ‘other location’ category. In retrospect, these omissions were a mistake; several of these are important names and should have been included. These omissions are the following: ascent/pass (Adummim), cave (Machpelah), garden (Garden of Uzza), high place (Bamah), lake (Chinnereth), pool (Siloah), and sea (Salt Sea/Dead Sea). Fortunately, the sign for the Salt Sea/Dead Sea was added by the consultants to the modern places list which is explained at the end of section 2.1.

It is possible that another of these place name signs actually did appear in videotapes. It is likely that the sign for the large lake called *Yam Chinnereth* in Hebrew (also known as the Sea of Galilee in English) appeared in the videotape of fortified city signs since there is a Biblical fortified city by the same name Chinnereth. Consultant C included a generic sign for lake/sea followed by the sign for Chinnereth. Consultant B also had two sequential morphemes for his sign for Chinnereth: the first sign traces a circle in neutral space, and the second sign is the sign for Chinnereth. It is not clear to me whether the first of these two signs (the one that traces a circle) is possibly a generic sign referring to 'lake/sea' or if it refers to possibly a 'wall', a reference to the fact that Chinnereth was a fortified city. The first sign is different than consultant B's generic sign YAM 'sea'. It is possible that there is a parallel relationship between the Hebrew names and the signs, meaning that if two different places have the same Hebrew name, that the signs for the places could be the same as well. However, this would need to be verified.

Other generic term categories that I searched for had only a few items and were also omitted from the study for the same reason as just mentioned above: gate (Sur Gate and Shallecheth Gate), desert (Dizahab, Negev, Paran, Sin, and Sinai), and country (Canaan, Egypt, and Midian). Some of these are also important and should have been included in the 'other locations' category.

Fortunately, from the category of desert, Sin and Sinai appeared in the categories of town/city and mountain, respectively.<sup>11</sup> And from the category of country, Midian appeared in the land category.<sup>12</sup> Therefore, as a result, some of the names in these small categories were not completely omitted from elicitation lists in this study. It is possible that the sign names might be different, for example of a mountain and desert of the same Hebrew name (Mount Sinai and the Sinai desert). However, it is just as possible, that two different places can share the same ISL name, if in such cases, the sign language operates in parallel structure to the Hebrew names.<sup>13</sup> It is possible that the same sign would be used for Mount Sinai or for the Sinai desert. The same situation might be true as well for the Desert of Sin and the town called *Sin* in Hebrew.<sup>14</sup> It is

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<sup>11</sup> The Hebrew place name *Sin* has nothing to do with the English word and meaning ‘sin’.

<sup>12</sup> Another category omitted from this study is that plain. From this category, Sharon also appeared in the categories of location and region.

<sup>13</sup> A clear example of this is consultant A’s signs for the Salt Sea/Dead Sea (*yam hammelach*), and the Salt Valley (*gai hammelach*). In both cases, the first sequential morpheme is a generic sign, either YAM ‘sea’ or GAI ‘valley’, and also in both cases, the second morpheme is the specific name translated into English and ISL from Hebrew *melach* as ‘salt’.

<sup>14</sup> Somewhat but not exactly related to this is the clear evidence of the recycling of Biblical place names all over the U.S. There are 100’s or maybe even 1000’s or more

valuable anyhow to have a record of as many ISL place name signs as possible.

Several other possible categories which I searched the database for, did not turn up any place names; therefore these too, obviously were not included at all: building, citadel, field, island, place, province, road, street, synagogue, wall, and well. It would have been interesting though to look up the corresponding Hebrew generic names for these words, and to elicit them in ISL for further documentation and study, along with all the other generic terms underlined in this section.

Once I was in Israel, the consultants suggested that I add a list of modern place names in Israel, some of which were included in the original nine lists, and some which were not. They wrote the names of the places in Modern Hebrew script and in English on a numbered chart similar to the other charts I used. So I ended up with a tenth category of place names: modern place names in Israel, with a total of 42 signs. Later I videotaped these along with the nine categories of Biblical place name signs. 26 of these signs are based on Modern Hebrew place names in Israel, mostly cities. The other 16 signs are for modern sites which have Biblical Hebrew place names. The signs in this second group of 16

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cities in the U.S. alone that have Biblical names, taken from the common pool of known place names.

modern place names match the signs for Biblical places of the same Hebrew names included in the nine major categories already listed above at the beginning of section 2.1.<sup>15</sup> This list of modern place name signs, written in Modern Hebrew script would probably be useful in future sign elicitation sessions and would probably draw a larger potential pool of consultants. The place name references would be more accessible to more Deaf people as well since the list is written in the script most commonly used in Israel today. One ISL place name sign that did not end up on the modern places list, but should be added to it, is the Yarkon River; however, this sign is documented in Savir 1992 (174).

## **2.2 Selecting consultants**

Language consultants were selected based on two important criteria: signing ability and education. As is common practice in sign language linguistic research, all the language consultants were Deaf, fluent or near-fluent signers of Israeli Sign Language (ISL), who identify themselves with the signing Deaf community in Israel. As it turned out, all three of my consultants are native signers. Time constraints became an issue in terms of how many consultants I was able to contact and to videotape. Three is a sufficient number to get some data on variation in

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<sup>15</sup> Of these sixteen signs, only one (the Salt Sea, also named the Dead Sea) did not appear on the Biblical Hebrew place name sign lists although it should have.

the articulation of signs, if it exists; especially when the signers grew up in different places.

Since this research was essentially lexical in nature, it was sufficient that the consultants be fluent or near-fluent signers who use a sign language as their primary means of communication. They did not have to be native signers, who are generally more difficult to find, since nine out of ten deaf children are born to hearing parents who do not know ISL. Most Deaf children do not start learning to sign until they attend a Deaf school or Deaf program. Further, which sign language or artificial signing system they learn depends on what communication methods their teachers use. As a result, acquisition of ISL can be delayed by several years, for many Deaf people who do not have access to a natural sign language from birth (Bettger 2000:327). Although such persons may eventually become quite fluent signers, they are not, strictly speaking ‘native signers’.

Education, particularly knowledge of written Biblical Hebrew, was another important criterion in consultant selection. Due to time constraints in trying to produce hard-copy lists of close to 1000 place names in Hebrew, it became necessary to use the script that I had available to me quickly, which was Biblical Hebrew. The original database that I got names from, already included names in the Biblical Hebrew script, and not in the Modern Hebrew cursive script. Even though the Biblical and modern place names may sound similar, the

scripts they are written in look quite different from each other, and the modern script generally does not include vowel pointing. So in order for the language consultants to identify what places to sign, it was necessary that they be familiar with the Biblical Hebrew form of the place names.

Even though it was not initially an important criterion, knowledge of American Sign Language (ASL) became important in consultant selection since it took some time to find ISL interpreters in Israel who also knew English, as I knew little Hebrew at the time of data collection, but am conversational in ASL. Therefore, I conducted two interviews in ASL rather than communicating through an English-ISL interpreter.

I contacted the initial consultant, whom I call ‘consultant B’ in this thesis, through an Israeli linguist, Irit Meir. The other consultants were then recruited informally with consultant B’s help, after he understood the nature of the research.

Both consultants A and B had studied at Gallaudet University in the Washington, D.C. area, and could communicate in ASL; therefore communication was clear between us. However, an interpreter was necessary to facilitate communication with consultant C. Consultant B interpreted for consultant C the written English consent agreement information into ISL, as well as the explanations regarding this research project.

## **2.3 Gathering sociolinguistic information**

Through conversation with the consultants before collecting the word lists, I gathered demographic information dealing with important sociolinguistic factors that are known to affect sign languages. See Appendix A for the questions asked. Most importantly, the information included: where and from whom the consultants first started learning sign language and their age at the time, which Deaf schools or programs they attended while growing up, their highest level of education, which Deaf clubs they attended, and which languages they understood now.

### *2.3.1 Consultant A*

Consultant A is a Deaf man, 23 years old at the time of data collection. Both of his parents are Deaf. His father was deafened at one year of age, and his mother was born deaf. Both parents learned ISL when they were babies, and he learned ISL from his parents as a baby.

He attended Deaf schools in Tel Aviv during all his childhood years. For university study, he went to Gallaudet University in Washington, D.C. and earned his B.A. degree there. During his time at Gallaudet he learned ASL and some English.

He sometimes attends Deaf clubs in Israel, mainly during special holidays such as Hanukkah or other parties. In his opinion, the Deaf clubs are not as crucial as meeting places for the Deaf as they used to be since they now have other means of communicating such as text

messaging (SMS) and fax. His occupation is accounting, but sometimes he substitute teaches in mainstream schools with deaf and hard-of-hearing children, something that he really enjoys. He knows ISL, ASL, written Hebrew and written English.

### *2.3.2 Consultant B*

Consultant B is a Deaf man 38 years old at the time of data collection. Both of his parents were Deaf since they were babies, so he learned ISL from birth. His mother's parents were both Deaf as well. During his grade school years he attended special classes in the different hearing schools in Tel Aviv in which he was mainstreamed. He went on to attend Gallaudet University and received his B.A. degree. He was on the Committee of the Israeli Deaf Association but did not attend Deaf clubs much. He teaches ISL at the university level. He knows ISL, ASL, written Hebrew, written English, a little written German, and a little written Arabic. One of his grandmothers spoke German.

### *2.3.3 Consultant C*

Consultant C is the wife of consultant B. At the time that I interviewed her, she was 33 years old. Both of her parents learned sign language when they were babies, and she learned ISL from her parents from birth. Growing up in the Haifa area, she was mainstreamed into hearing schools in which she attended special classes. When she was 23 years old she moved from Haifa to the Tel Aviv area. She received her

B.A. from Bristol University in England. She is involved in story-telling and drama at the different Deaf clubs in Israel, works as an Israeli Sign Language teacher, and does drama and story-telling. Previously she was a teacher of Deaf children. She knows ISL, BSL, written Hebrew, written English, and a little ASL.

## **2.4 Collecting sign data**

The word lists were presented, signed, and videotaped at homes that were mutually agreeable. Academic settings were not chosen due to the fact that some Deaf have had negative experiences in school settings. Often sign languages have been erroneously regarded as an inferior system of communication, possibly not even a language, but rather just mime or gestures. Even if a form of signing is used in a school, it might not be a natural sign language. Therefore, since this kind of setting could potentially affect the choice of signs or the signing performance, it was avoided.

### *2.4.1 Instructions for quality data*

In order to improve the quality of the data collected, I gave the consultants five instructions about what was important for the research:

1. Sign at a natural rate of speed, not slower.
2. Sign as you would for Deaf people, not for hearing people.
3. Give the sign that is used locally where you learned sign language.

4. Look at the printed list of place names to read what the next place name is, then look at the camera before signing it.
5. If a place has two different signs, please sign both names, with a pause in between.

#### *2.4.2 Identifying place names which have signs*

I presented the wordlist of the nine place name categories described above to consultants A and B. I asked them to go through the lists, indicating that they knew a sign for that particular place name, by a checkmark in the appropriate box next to the word.<sup>16</sup>

I gave several clarifications about the lists of words:

1. The same word can be on two or more lists (ex., a river and a valley that have the same name).
2. The list includes some place names that are not in Israel, but that are in the Tanach.
3. There are nine different categories of place names listed by category: rivers, valleys, mountains, areas, lands, regions, fortified towns, other locations, and cities/towns.

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<sup>16</sup> Consultant C may not have had enough time before the videotaping session to look over the whole list of place names that I showed consultants A and B; however, for the videotaping session, she followed the list with the place names checked off by consultants A and B.

4. A place can have two different signs; both are important.

After checking off the known signs, the consultants were videotaped, one place name at a time. All three consultants were videotaped signing the modern place names as well.

#### *2.4.3 Etymologies*

When collecting the etymology data, I went through the lists of videorecorded signs again with the consultants and discussed the etymologies of their component parts. Consultants B and C gave their etymological explanations together; mainly, consultant B would give his explanations, and when consultant C's sign was different from B's, she gave the etymology for the sign that she knew. I interpreted out loud into English what consultants A and B said in ASL, and a notetaker took notes from what I spoke. When necessary, consultant B interpreted back and forth between ISL and ASL so that consultant C and I could understand each other.

## **2.5 Processing the videos**

There are many programs available for processing videos; in this section I footnote the free ones that I have used, as a starting point for others who may want to do similar research. I followed many of the video technology procedures recommended in Bickford (2005), and provide a very brief summary here. In order to add ISL place name signs to the database, I captured the videos of the signers from videotapes into

uncompressed .avi files on my computer.<sup>17</sup> Then I clipped the .avi files into individual sign clips in the much smaller MPEG-1 format (.mpg).<sup>18</sup> Then I linked these individual sign video clips to the Toolbox database by including a field with the file name, so that the individual place name sign video clips could be accessed from individual place name entries in the database.

For data analysis, I took the same uncompressed .avi files mentioned earlier (one for each consultant) and converted each one to an MPEG-1 file (.mpg file).<sup>19</sup> Later I loaded each of these MPEG-1 files into ELAN.<sup>20</sup> This program is helpful because with it, one has the capability of slowing down the speed of the signs and of easily stopping the sign at whatever point it is necessary for more detailed analysis of the sign handshapes, locations, orientations, movements, mouth shapes, etc. In ELAN I glossed the individual signs, marking the sign starting and stopping point, which later made it quick to find each sign by typing in

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<sup>17</sup> STOIK Capturer:

[http://www.stoik.com/products/morphman/Stoik\\_Capturer.htm](http://www.stoik.com/products/morphman/Stoik_Capturer.htm)

<sup>18</sup> TMPGEncoder: <http://www.tmpgenc.net/en/index.html> (using a constant bit rate setting)

<sup>19</sup> The conversion was accomplished using the TMPGEncoder software program. The constant bit rate setting is important in this process.

<sup>20</sup> <http://www.lat-mpi.eu/tools/elan>

the English place name in a search window. I also marked the starting and stopping points of each category of signs, such as rivers, mountains, etc. Lastly individual frames showing significant parts of the signs (especially the beginning and the ending) were extracted to include in the thesis (see Appendix C).

## 2.6 Analyzing toponyms

I looked at three main areas in the toponym analysis: structure, etymologies and borrowed elements. The first step was to separate the signs into simple vs. complex, unique vs. non-unique, and borrowed vs. native signs following Peng & Clouse (1977:297-298). I did this by making a chart with the sign glosses listed at the left and the following four categories at the top: simple, complex, unique, and non-unique. Then I checked off the characteristics that applied to each sign.

Simple signs are made up of one morpheme, and complex signs are made up of two or more morphemes. Peng & Clouse (1977:297-298) use the term compound to refer to signs made up of more than one morpheme. For this ISL data it is more appropriate to use the term complex due to the fact that some signs include prefixes. It would not be accurate to call these compound signs. In this thesis, I use the term complex to refer to a variety of different kinds of signs made up of two or more sequential morphemes (including signs with prefixes, reduplication and compounds).

Unique signs are only used as proper nouns, whether it be for persons or places. Non-unique signs are used or have elements that are used not only as proper nouns but also more generally as common nouns. Thus, non-unique signs have an etymology which is tied in with their use as common nouns, whereas the only etymology of unique signs is that which is relevant to iconicity (real-world images which provide visual information that signs can be patterned after).

Borrowed refers to signs that include a form and/or meaning incorporated from another language (spoken or signed), whereas native refers to signs that, as far as I could tell, had no elements incorporated from other languages. Peng & Clouse use the term ‘independent’ or ‘domestic’ to refer to the native signs, but I found the term ‘native’ more helpful.

After making the distinctions between simple/complex and unique/non-unique, I added another column noting if each sign had a borrowed element or was a native sign. The differences of borrowed form were labeled according to the following categories: fingerspellings, initializations, and oral language drills. Signs with a borrowed meaning were labeled as loan translations. Just two signs were labeled as unanalyzable, meaning that the signers did not know what the signs were named after. When each of a complex sign’s component parts were from a different category, each part was labeled. Making these

distinctions helped during the analysis of complex signs with borrowed elements.

Reading Meir & Sandler's (2008:46-55) description of what mechanisms sign languages permit for the introduction of new signs into their lexicon was a great help in this analysis. They describe six basic ways which are permitted in ISL for new sign creation: a) compounds, b) signs with prefixes, c) borrowing whole words from foreign languages, d) partial borrowing, e) borrowing signs from other sign languages, and f) iconicity. They also briefly mention that other signs are adapted in order to form new nuances of meaning.

Winford's classification of lexical contact phenomena (2003) provided an initial guide in categorizing the different borrowed elements in the signs, focusing especially on the distinction between borrowings of form vs. borrowings of meaning alone. Later I adapted this framework to include differences in form available in sign languages. I also looked at the structure of the loan translations in terms of the number of sequential parts which composed them. I looked at the number of sequential parts in the Hebrew names from which they were translated and the number in the ISL signs into which they were translated.

As is typical in spoken language toponymic studies, I then analyzed the semantic content according to the etymologies of the signs to see what kinds of things ISL typically named places after. Marlett & Moser's (2000) work on Seri provided a guide in separating out the two

main areas of analysis: the structure and the semantic content. Peng & Clouse's (1977) approach parallels Marlett & Moser's in that they both divide their analysis into two main sections: structure and semantics. Peng & Clouse's categories of simple vs. compound look at the structure of the signs. Their categories of unique vs. non-unique look at etymologies. Then I compared all the complex signs to analyze the different combinations of borrowings that existed. I also looked specifically at all the generic terms that were used in ISL toponyms.

# CHAPTER 3

## STRUCTURE OF ISL TOPOONYMS

ISL place names can be classified in several different ways. In this first of three chapters on analysis, I classify ISL toponyms based on their structure. In chapter 4 I present an analysis which classifies them based on form or meaning borrowings and the different kinds of forms these borrowings take in ISL. Lastly, in chapter 5 I present an analysis which classifies the signs based on their semantic content.

A structural approach to classification provides fairly clear-cut categories based on whether the signs are made up of one morpheme (simple signs) or two or more morphemes (complex signs). In section 3.1 I describe simple signs, and then I go on to describe three different kinds of complex signs: compounds (section 3.2), reduplicated signs (section 3.3) and signs which include a prefix (section 3.4).

### **3.1 Simple signs**

Most of the signs in my data are simple signs (single morphemes) rather than complex signs (two or more morphemes). There are a total of seventy different signs in this category, with examples from each of the ten geographic categories; the other twenty-two signs in the data are two-

morpheme signs.<sup>21</sup> I give many examples of the single-morpheme signs in chapter 5 (semantic content of signs). For now I just mention three pairs of single-morpheme signs which are difficult to distinguish, except by mouth movements: JUDAH(JEHUD)/INDIA<sup>22</sup>, BETHLEHEM/SHECHEM, and ARABIA/JOPPA. These may represent homophones, multiple senses of the same sign, or fine details of phonological contrast. I also describe a minimal pair between JUDAH(JEHUD)/INDIA and RAMAT\_GAN.

The manual components of JEHUD and INDIA for all three signers are almost exactly the same except that consultant B produced a slightly shorter arc of rotation at the wrist for JEHUD and finished the sign with an even slighter back-rotation. For consultant B the signs for Arabia and for Joppa (Yaffo) are almost the same. In my data, ARABIA has three taps, and JOPPA has two. Sign languages do not normally differentiate grammatically between two or three repetitions of a movement, so it is unlikely that there would be a significant difference between the manual components of these signs. Lastly, consultant B articulates the following two signs identically, practically-speaking: BETHLEHEM and SHECHEM.

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<sup>21</sup> The relative number of signs given in this chapter is primarily based on Consultant B's signs. Consultant A and C's numbers vary from these.

<sup>22</sup> India appears in the Tanach as אֶרְדָּן, the eastern boundary of the kingdom of Xerxes, king Ahasuerus.

He explained that both of these place name signs come from the ISL sign meaning ‘bread’. BETHLEHEM is also a loan translation of the Hebrew word *Bethlehem* translated into English as ‘house of bread’.<sup>23</sup> LECHEM is the ISL common noun sign meaning ‘bread’.<sup>24</sup> The consultant clearly recognized that the origin of the sign came from the “meaning” of the Hebrew place name; however, he did not happen to know why the place name SHECHEM also looked like the common noun sign meaning ‘bread’. One would need to videotape more instances of these signs by different signers and compare them to see if there are significant differences between the signs.

While these pairs of signs are almost identical, the mouthing is different. Mouthing of the corresponding Hebrew word is a linguistic component that has been documented in ISL, distinguishing some signs which do not seem to have any differences in the manual articulation of sign (Meir & Sandler 2008:177). This element may be enough for native signers to distinguish between each of the signs in a pair. I discuss much more about mouthing in chapter 4 (Borrowings).

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<sup>23</sup> See chapter 4 on Borrowings for a more detailed explanation of loan translation signs.

<sup>24</sup> A deletion of the first part of the Hebrew word *Beth* meaning ‘house’ has also occurred in this sign, whether as the ISL sign BETHLEHEM was first created, or later after HOUSE+BREAD had been signed for a while.

There is also one minimal pair in the data: the signs for Judah (Jehud) and India contrast with the sign for the city of Ramat Gan, in terms of the location of the sign. The sign RAMAT\_GAN is articulated at the side of the mouth, whereas the other two signs are articulated at the same place on the forehead with the same movement as the sign RAMAT\_GAN.<sup>25</sup>

### 3.2 Compounds

Compounding is the process of creating a new word by substantially joining two or more words together, a very common mechanism for new word creation in spoken and signed languages. In the joining together of the two separate words, there is a change in their essence so to speak. Meir & Sandler (2008:47) give examples in English such as *blackboard*, *scarecrow*, *rabble-rouser*, *movie star*, and *computer wizard*. They are not just loosely connected words. They are parts of a whole that must stick together to communicate a specific new meaning since “the meanings of these compounds are not entirely predictable from the meanings of their parts.” For example, not every black board counts as a blackboard—it has to be used for writing for display to a room of people. Indeed, most blackboards are not “boards” in the usual

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<sup>25</sup> Consultant A has a secondary movement added at the end of the sign (the hand moving to the side).

sense since they are not typically made of wood, but rather of slate or of another hard smooth material; however, they used to be made mostly from wood painted over with a black gritty substance. Sometimes they are even green, not black.

The process of bringing together two separate words into one is a common mechanism in ISL for the formation of new words to express concepts that do not have a corresponding sign (Meir & Sandler 2008:47.) For example, FEVER + TEA = SICK. Semantically speaking, I am assuming that place name signs with two roots are complex signs rather than being two separate words. When the words come together, they refer to a whole new concept, that of a location, a meaning not necessarily predicted from its component parts. They are no longer, for example, two common nouns referring simply to two separate objects.

Phonologically speaking, I am assuming that place name signs with two roots are complex signs because I have not yet been able to identify clear prosodic or non-manual breaks between the morphemes (such as head, eye or other facial movements). Also, since most lexical units are single words, we assume all lexical units are single words unless there is evidence to the contrary. Even in sign languages, most lexical units are not made up of two or more sequential morphemes.

Of the twenty-two signs in my data that are complex signs (made up of two sequential morphemes), eighteen are compounds. Most of these signs involve borrowings; one of the few compound signs which does not

include borrowings, is Consultant B's sign for the city of Tirat HaCarmel. It is made from the single morpheme signs of FIVE, followed by FOUR, (the hands moving from the perspective of the signer, from left to right, following the order of the written numerals of the number 54. This number refers to bus line 54. As such, its component parts can be described as FIVE+FOUR. Of the eighteen compounds, twelve are loan translations (four only partially) and several include elements representing speech sounds. Since most of the compound signs involve borrowings, I discuss them in greater detail in chapter 4 on borrowing.

### **3.3 Reduplication**

Reduplication is a very small structural category, comprising only three of the twenty-two complex signs in my data: HEBRON, GIVATAIM and GOLAN.<sup>26</sup> This type of sign is articulated through the repetition of a morpheme as the hands move through neutral space towards the dominant side. The sign is not simply a repetition of the movement in its initial location; the hands are displaced sideways to a nearby location for the second repetition of the root. Reduplication can also be described as the repetition of a root to express a particular meaning. In these three signs, HEBRON, GOLAN, and GIVATAIM, the repetition expresses the

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<sup>26</sup> In the Tanach, גָּלָן Golan is referred to as a city of refuge in the area of Bashan. The Biblical place name Golan is in my list of towns/cities.

meaning of plural (more than one). I do not have enough data to confirm if this is a general process of noun pluralization in ISL, but it has been found to be a basic pluralization strategy in a number of sign languages.

Hebron is a place that is known for including the burial place of the Jewish patriarchs, the graves for several generations of patriarchs. Consultant B makes the sign by reduplicating KEVER ‘grave’. All three signers reduplicate the morpheme GIV’AH ‘hill’ for Givataim, which in Hebrew consists of the root *giva* ‘hill’ plus the dual suffix *-aim*. In ISL, the sign is a loan translation HILL-HILL, expressing the meaning of ‘two hills’ using reduplication in place of the Hebrew dual suffix.<sup>27</sup> Lastly, for Consultant B, GOLAN is similar to GIVATAIM with reduplication of HILL, except that he signs GOLAN higher, on level with the top of his head, to the right of center, and with the B handshape; whereas he signs GIVATAIM in central neutral space with the B hand, slightly cupped.<sup>28</sup>

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<sup>27</sup> It is not clear whether or not there is a difference in ISL for the use of reduplication for marking a dual sign in contrast to a plural sign.

<sup>28</sup> The B handshape is the same both in the ISL and ASL fingerspelling systems. Since these handshapes represent the scripts (written letters) of spoken languages, they are fully discussed in the chapter on borrowing, section 4.1.1.

### **3.4 Signs with prefixes**

Four of the twenty-two complex signs in my data are signs with a prefix and are loan translations.

#### *3.4.1 Young languages, limited amounts of affixes*

There is not a lot of documentation of signs with affixes in sign languages, although affixation does occur. Aronoff, Meir & Sandler (2000:4) list a number of researchers that “have pointed out that sign languages arise under situations that are prototypical for pidgin and creole languages.” Most Deaf signers do not acquire their sign language naturally as a baby does since most Deaf are born to hearing parents who in most cases do not use sign language as their normal mode of communication. Aronoff, Meir & Sandler go on to say the following:

Sign languages, because of the social circumstances of their communities, are constantly being recreolized and consequently remain young for a very long time. It is therefore reasonable to expect that sign languages will not readily develop complex language-particular grammatical and morphological features, especially inflection. The youth of sign languages is therefore a primary reason for the dearth of inflectional or derivational affixation in these languages.”

### *3.4.2 Signs with a prefix in ISL*

In ISL there is one set of prefixes which are derived from signs for the sense organs or senses and which attach to verbs or adjectives: EYE- (seeing), EAR- (hearing), NOSE- (intuiting), MOUTH- (saying), and HEAD- (thinking). Each of these glossed prefixes (informally termed “sense prefixes”) is the index hand pointing to the said part of the body. “Many of the complex words formed with them can be glossed ‘to X by seeing (eye)/ hearing (ear)/ thinking (head)/ intuiting (nose)/ saying (mouth).’ But many have idiosyncratic meanings” (Aronoff, Meir & Sandler 2000:24). Over seventy complex signs have been identified so far in ISL with prefixes from this class (Meir & Sandler 2008:50).

These prefixes are called such (rather than the first element in a compound) because “they comprise a small list of forms that may be attached to the beginning of a large number of words to form complex words” (Meir & Sandler 2008:49). Two examples from the ISL general lexicon are: EYE-CATCH meaning to ‘catch red-handed [by seeing]’ (Meir & Sandler 2008:49) and EYE-SHARP meaning to ‘discern by seeing’ (Sandler & Lillo-Martin 2006:70-71).

### *3.4.3 ISL toponyms with prefixes*

The four ISL signs in my data that include the prefix EYE- are loan translations: EN-TAPPUAH, EN-SHEMESH, EN-GEDI, and EN-DOR. In all of them, the root (base sign) is a noun. This is a different pattern than

Meir & Sandler report for non-names, in which this prefix attaches to an adjective or verb. An example is the sign for En Tappuah (EYE-APPLE), a biblical location in the territory of Manasseh. In Hebrew, *En Tappuah* means ‘spring of apple’. *En* can mean ‘eye’ as well as ‘spring’, so it appears that the ISL sign is using EYE- as a prefix, in parallel structure to its general use in the language, on the basis of the sense ‘eye’ of *En*. So actually the sign is preadapted to a different sense of *En-* before being translated into ISL.

#### 3.4.4 A complex word or two words?

With regard to the internal structure of ISL signs with prefixes, Aronoff, Meir & Sandler (2000:26) first state that “[a]s with the ASL suffixed forms, if these are words consisting of two morphemes, we expect a sequence of two handshapes to be permissible within them.” This sequence of two different handshapes can be seen in my data in three of the four signs with prefixes: EN-SHEMESH, EN-TAPPUAH, and EN-GEDI, all of which are pure loan translations (EYE-SUN, EYE-APPLE, and EYE-GOAT).

There is phonological evidence that these signs with prefixes are single words in ISL. Aronoff, Meir & Sandler go on to say that “[c]onsistent with the claim that the sequence is a word and nothing larger, we find that the affixed forms may undergo regressive handshape assimilation, a process that does not occur across words. We may

conclude, then, that we are dealing with complex words and not two independent words.”

This process is similar to what occurs in spoken languages when the last letter in a prefix changes to accommodate to the first sound of the following base morpheme; for example the *in-* prefix in English attaches to *measurable*, *regular* and *literate*, to become *immeasurable*, *irregular* and *illiterate*. In my data this process can be seen in Consultant B’s sign EN-DOR (which is a combination sign with a simple loan translation EYE- plus an iconic drawing of a coastline with the dominant hand). The root handshape (baby C hand) spreads onto the prefix (which normally is a 1 handshape). That is, the extended thumb position regressively assimilates from the root to the prefix; this makes the handshape stay mostly the same throughout the sign. Thus the handshape of the EYE- morpheme looks slightly different in this sign when compared to the other ISL signs with a prefix.

#### *3.4.5 Support for a prefix analysis from ISL place name signs*

Three facts suggest that these loan translation signs are prefixed, rather than compound signs. First, EYE- always occurs before the base morpheme. If this were an instance of compounding, we might expect EYE- to sometimes be the second element of the compound. For example in English *nap* can be used in either first or last position in a compound

(*napkin* or *catnap*), and as such it is not considered to be a prefix or suffix.

Second, the fact that there are four signs with the same first element but different bases, suggests that EYE- is a prefix in the ISL toponyms, just as EYE- is a prefix with verbs and adjectives in other vocabulary which are not place name signs. Aronoff, Meir & Sandler (2000:26) state that in their research the number of forms which precede the many different stems is limited to just five, whereas the second stem items are numerous. The prefixed place names in my data appear to be another instance of the same basic grammatical structure.

A third reason to believe that each of these place name signs with a prefix are one word relates to a specialization of the meaning when EYE- is added to a noun base. Though many of the signs have a fairly transparent meaning, in place names, EYE- has taken on the specialized function of deriving a place name. Aronoff, Meir & Sandler (2000:26) use a similar argument with respect to another use of this same prefix: when added to some words it takes on a hortative sense ('let's do x'). "This indicates that the form is a coherent prefix, since this additional nuance belongs only to the EYE forms, but has nothing to do with sight." In the same way, the specialized meaning of EYE- as a component deriving a place name is an argument that it is a coherent prefix, not simply an element of a compound.

## CHAPTER 4

### BORROWINGS IN ISL TOponyms

This chapter looks specifically at the elements in ISL toponyms which have been borrowed from other languages, whether spoken or signed, and how these names are structured. Mesthrie et al. (2000:249) simply state: “Borrowing is a technical term for the incorporation of an item from one language into another.” Whenever there is contact between two or more languages, borrowing becomes a common means of adding words to languages.

English is an example of a language that has many borrowed words. As Winford (2003:35-36) states: “The preservation of native lexicon is one way in which English reveals itself as a Germanic language, despite the fact that some 65-75 percent of its present vocabulary is of non-Germanic origin.” The borrowing of words from other languages does not have to be a threat to the survival of the borrowing language as is clearly the case regarding English. In fact words are often not even recognized as borrowed words anymore, even when they truly are. Regarding signs which have been borrowed into ASL, Padden (1998:39) reports: “[t]here are ways of accounting for them

without undermining the fundamental independence of a natural sign language.”

Winford (2003:30-31) describes what he calls “distant” contact:

A great deal, perhaps the majority, of lexical borrowing results from only marginal contact with other languages. Such contact may be due to travel, exploration, or conquest, or it may be due to exposure to the donor language in the mass media, foreign language instruction, and the like...Typically, in these situations, the recipient language community does not achieve bilingualism in the donor language, though some of its members may.

Such is possibly the case with sign languages, as many Deaf have limited access to the language sounds that they are surrounded by, and yet in the daily classroom language setting they are constantly being exposed to the written forms of that spoken language. In the end, some are able to become skilled readers, although abilities vary greatly.

Haugen (1969) and Winford (2003) offer descriptions of different categories of borrowings; however, the terminology is not always clear and sometimes boundaries between categories are not quite clear. After grappling with their definitions and descriptions as well as the ISL toponym data, I adapted their terminology to better account for my data.

Sign languages borrow form and meaning from other *sign* languages, and they borrow form (orthographic representations, sound representations and mouth shapes) and meaning from *spoken* languages as well. The borrowing of meaning is much more common in ISL toponyms than the borrowing of form. In section 4.1 I offer an in-depth description of these five categories of the borrowing of form along with examples mainly from my data, and in section 4.2 I do the same for four categories of the borrowing of meaning. In section 4.3 I particularly discuss combination signs—complex signs which are composed of two different kinds of borrowings. I now briefly introduce these categories below.

In explaining how new words are added to the ISL lexicon, Meir & Sandler (2008:46-55) describe three main kinds of *form* borrowing evident in ISL: 1) a complete type of borrowing from spoken languages known as fingerspelling (of the letters), 2) a partial kind of borrowing known as initialization (only the first letter of a written word is borrowed), and 3) borrowing from other sign languages. All three of these kinds of borrowing involve the borrowing of form. Both fingerspelling and initialization are orthography-based form borrowings. Meir & Sandler (2008:160) also mention a type of *form* borrowing from spoken languages called mouthing, in which the mouth articulates the corresponding spoken language Hebrew word (or something close to it), either audibly or silently.

One last category of *form* borrowing from spoken languages exists in my data; I have not yet found references to it in other literature. It is a small category which involves the borrowing of manual exercises used to teach Deaf children how to pronounce Hebrew sounds. A Hebrew oral drill is a combination of handshape and movement which represents a sound in spoken Hebrew.

The form borrowings in my data are interesting, and yet the more numerous type of borrowing is that of meanings. In my data I have instances of five different kinds of meaning borrowings. Even though Winford (2003:44) classifies only compound borrowings of meaning as loan translations, it is helpful with the ISL data to classify all borrowings of meaning as part of the main category of loan translation; this simplifies the task of categorizing borrowings and makes distinctions between sub-groups much clearer. The first three categories, briefly described below, involve single morpheme borrowings of meaning from Hebrew words.

1) The largest category is the simple loan translation which is a single morpheme in the donor or the receiving language, or in both. These signs refer to the etymology of a place name in Hebrew, using the corresponding sign in ISL for the place name. They can almost be indistinguishable from the common nouns that they look like (although mouthing sometimes can distinguish them). They are extensions of the

ISL signs that they look like since they attach a new referent (a place) to a common ISL noun.

2) Initialized loan translations are simple loan translations which incorporate an orthographic representation simultaneously into the sign.

3) I have chosen the term loan translation of preadapted Hebrew spelling for loan translations that involve a phonological adaptation in the donor language before the words are translated into ISL.

4) Calques are the prototypical loan translations in spoken language studies on borrowings. Winford (2003:44) refers to them as pure loan translations. They are compounds which are modeled on the language they are borrowed from, with each half of the compound being a translation of the source component halves. Winford goes on to describe them saying, “the foreign model is replicated exactly by native words.”

5) Combination signs are the last category; they are complex signs with two sequential components. Each combination sign includes at least one borrowed component plus another component of a different kind (either of a different kind of borrowing or a native sign). These signs most often follow the pattern of a simple loan translation followed by a fingerspelled sign. This type is discussed along with other combination signs in section 4.3.

## **4.1 Borrowings of Form**

There are a variety of ways that the form of a spoken language can be borrowed into a sign language. Form borrowings account for the following percentages of each consultant's total borrowings: A (23.68%), B (9.38%), and C (38.46%). Section 4.1 explains them, as well as borrowings of form from other sign languages.

### *4.1.1 Fingerspelling*

Fingerspelling is usually a complete borrowing of form from a spoken language into a signed language. In fingerspelling the letters of a written word are represented with a series of unique handshapes, patterned after the spelling of the written word. In some cases fingerspelling is a single handshape representing usually the first letter of a word only with no movement. Both kinds of signs are generally articulated in neutral signing space on the dominant hand side, with the forearm somewhat vertical. Meir & Sandler (2008:51) explain very clearly why these handshape spellings are considered borrowings:

Fingerspelled words stand out as borrowed, because they do not respect the phonological (formational) rules of the language [ISL]. Native words of the language are typically characterized by a single path movement from one location to another, or a single change of handshape, or a single change of orientation. The most complex movement involves a path movement in

addition to a handshape or orientation change...But in fingerspelled words, there is no path movement from one location to another. Instead, movement consists mainly of the transition from one handshape to another—and as many such transitions as there are letters in the word. The constraint on handshapes that holds on native words...—allowing only one group of fingers to be selected in each sign—is not observed by fingerspelled forms, which by their very nature must change the finger configurations to represent each letter of the word.

Meir & Sandler (2008) also report that a committee was set up in 1975 by the Association of the Deaf in Israel (ADI) to develop a fingerspelling system for ISL. Different options were considered including whether to adapt the ASL fingerspelling system or to make up their own that would iconically represent their Hebrew alphabet. Since other countries had adopted the ASL system, they chose it as well (adapting it to the Hebrew alphabet), hoping to encourage connections with the Deaf of other countries (p. 208).

One such fingerspelling system that may have been initially considered, but in the end rejected, is documented in Sandager (1986:ISR-1). This dictionary presents signs and fingerspelling systems from twenty-two countries with glosses in English, Spanish, French, German and Russian. The ISL section shows a system of fingerspelling

which shares 12 handshapes with the established ISL fingerspelling system, and clearly represents more iconically a handful of other letters of the Hebrew alphabet. ISL data is credited to the Dictionary of sign language of the Deaf in Israel from Hava Savir, of the Helen Keller Home in Israel.

ISL fingerspelling follows Hebrew spelling conventions.<sup>29</sup> The Hebrew writing system consists of twenty-two consonants including the glides (he ה, vav ו, and yod י). While the glides can sometimes represent vowels, other vowels are not normally written. Between 600 and 1000 C.E., Jewish scholars known as the Masoretes, in their zeal to preserve the Hebrew Scriptures, developed a system of representing vowels with diacritics, known as “pointing”. Although Modern Hebrew occasionally is written with vowel pointing, normally it is not. Accordingly, when ISL fingerspelling is used, handshapes are generally only chosen from among the twenty-two consonantal letters (including he, vav, and yod, even when used as vowels) and not the vowel pointing handshapes.<sup>30</sup> For

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<sup>29</sup> See the following website for the ISL fingerspelling chart:

<http://www.theinterpretersfriend.com/terp4/fs-table.html>

<sup>30</sup> When the ISL fingerspelling system was developed, handshapes for vowel pointing were also developed along with the handshapes representing consonants. Even

example the word meaning ‘peace’ in Hebrew is *shalom* (Meir & Sandler 2008:51). The ISL fingerspelling for this word is Sh-L-O-M. The [a] sound is dropped because it is represented only by vowel pointing, if written at all. The “O”, however, is written with the consonantal letter vav (waw), so the handshape representing vav is included in the fingerspelling.

Another characteristic of Hebrew script is that five consonant letters have a variant form used in word-final position, as shown here (first the regular form, followed by the word-final form): כ נ [k]; נ מ [m]; נ נ [n]; ב פ [p]; ו צ [ts]. All the word final forms (except for [m] מ) extend below the baseline. This final form has been conventionalized in ISL fingerspelling by adding a downward movement of the hand (even in the case of מ [m]), which can be seen in some of my data.

A great deal of variation exists in the use of fingerspelling. Consultant B did not use any. Fingerspelling accounts for 66.67% of consultant A’s form borrowings (15.79% of his total borrowings), and 45% of consultant C’s form borrowings (17.31% of her total borrowings). Two different kinds of fingerspelling are represented in my data: complete and partial. These two types of fingerspelling are found in simple signs and in complex signs (in six different combinations of sequentially-

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though these vowel-pointing handshapes are included in the ISL fingerspelling charts, they are generally not used in signing conversation.

ordered morphemes). These complex signs are discussed at the end of section 4.1.1.

Consultant A has two complete fingerspellings of Hebrew place names, both articulated in the signing space generally used for fingerspelling: the town of Carmel כַּרְמֵל is signed K-R-M-L, and Jotbathah יָטְבָתָה is signed Y-T-B-Th-H. The second kind of fingerspelling illustrated here in this section is a fingerspelling of only the initial Hebrew letter of a place name. Consultant C's sign for the town of Shechem is a partial fingerspelling of the Hebrew name, representing only the initial letter שׁ “Sh” with no movement. It too is articulated in the signing space usually used for fingerspelling.

At first this sign for SHECHEM seems more like an initialization rather than a fingerspelling, since it is representing only the first letter of the Hebrew word. However, it really is a fingerspelling because it lacks the movement patterns typical for native signs which Meir & Sandler (2008:51) describe as “a single path movement from one location to another, or a single change of handshape, or a single change of orientation.” Initializations normally take on the movements of a native sign which would involve one of these kinds of movements.

When fingerspellings occur in combination signs, they mostly follow a simple loan translation sign which happens to be a generic sign, and the fingerspellings are full, not partial. Consultant A used only this

mechanism with fingerspellings in combination signs. The towns of Beth-Shean and Beth Zur are expressed as BETH+SHEAN and BETH+ZUR. The generic sign BETH meaning ‘house’ or ‘place’ is a loan translation; it is followed by a full fingerspelling of the second half of the Hebrew place names. The sign for Beth-Shean בֵּית שְׁאָן is the loan translation sign BETH בֵּית ‘house’ followed by the fingerspelling Sh-A-N(final) for שְׁאָן. The explanation of the fingerspelling in the sign for Beth Zur is more complicated and is explained in more detail in the next paragraph. The Hinnom Valley נִיאַת חַנּוֹם is signed with a loan translation of the Hebrew word נִיאַת ‘valley’ followed by the fingerspelling H-N-M(final). The sign for Mount Carmel is the generic sign meaning ‘mountain’, followed by the full fingerspelling K-R-M-L.

Two of the three consultants had a sign for Beth Zur בֵּית צָר; in both cases it is a simple loan translation of בֵּית (bayt) ‘house’ followed by the fingerspelling for the last Hebrew morpheme צָר. Hebrew reads from right to left, and so the fingerspelling was in this order: first צ [tz], then א [oo], and lastly ר [r]. During the fingerspelling, neither consultant moved his hand vertically or horizontally, except after forming the handshape for the combination letter vav א which represents the vowel sound [oo]. Maintaining the handshape for this letter, they both moved

their hand horizontally towards their left side. This disambiguates the representation of the ֻ [oo] sound from the representation of ִ [oh] sound and from the representation of the consonant ֻ [v].

Consultant C has five combination signs involving fingerspelling of only the *initial* letter of a Hebrew morpheme within a place name, for the following places: Golan, Yotbathah, Chinnereth, Hebron, and Tirat HaCarmel. Two partial fingerspellings precede a generic sign: GOLAN and JOTBATHAH. GOLAN is a fingerspelled G with no movement in the location for fingerspelling, followed by a circular movement sign made next to the head with the open “5” hand which probably means something like ‘region’ or ‘area’.<sup>31</sup> YOTBATHAH is fingerspelled Y plus the same generic sign signed lower. Yotbathah is much farther south than Golan; so it is interesting that the generic sign shows this difference with its relative placement in neutral space.

CHINNERETH involves a generic sign followed by a partial fingerspelling. I elicited the sign for the fortified town of Chinnereth, but the sign given includes the generic sign for ‘lake/sea’, so it is possible

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<sup>31</sup> The use of what may be a generic sign meaning ‘area’ in GOLAN might be an indication that the signer’s reference is to the modern region of Golan, and not to the Biblical town of Golan. However, it is possible that the same sign could be used for either.

that the signer understood the reference to be the Sea of Galilee, which in Hebrew is known as *Yam Chinnereth*. I was pleased to have videotaped a sign for the Sea of Galilee because, as noted earlier, I had neglected to include it on the elicitation list to begin with. The generic sign SEA is followed by her hand resting in the normal fingerspelling place with the Kaf [k] handshape with no movement.

Consultant C also has one partial fingerspelling preceding an oral drill sign (HEBRON); it is discussed in section 4.1.3 on Hebrew oral language drills. She also signs two three-morpheme signs with fingerspellings: the first involving a first component which is a partial fingerspelling, and the second three-morpheme sign involving a full fingerspelling at the end of the sign: Tirat HaCarmel (T+TWO+TWO) and Valley of the Son of Hinnom (VALLEY + SON + H-N-N-M(final)).

#### 4.1.2 Initialization

Initialization is a partial borrowing: only one letter of a written word is borrowed. Usually this is the first letter, but in rare cases some other letter from the written word is used, such as X in ASL PHOENIX and TEXAS, and Tz in the ISL example ERETZ which is explained below. It usually occurs when a pre-existing sign is adapted by changing the handshape to represent a written letter. The new sign keeps the movement and location of the original sign, only changing the

handshape. This process of initialization creates a new sign with a meaning subtly different from the sign it was adapted from.

When sign language became more acceptable in the Deaf schools in Israel, which had previously been more oral in their teaching, a national committee of sign language teachers was established to expand the language. All except one member of the committee were deaf; the hearing member was the son of deaf parents. Their primary means of adding new signs was through initialization. At first the Deaf community resisted this; many signs were rejected while eventually some were accepted into ISL (Meir & Sandler 2008:208). In some cases initialization is considered acceptable, but in other cases it is seen as an imposition from the spoken language onto the sign language, when a sign already exists for the concept for which the initialization has been added.

As mentioned above, an example from ISL is ERETZ, the new sign meaning ‘country’. The native sign is FLAT\_AREA. This same sign was used to mean ‘soil’ or ‘land’ as well; it is made with the B handshapes on both hands, starting side by side, palms down in neutral space, then simultaneously each hand moving out horizontally one towards each side. This native sign was adapted by changing the handshape to the handshape representing the letter **ת tzade**, the last letter in the Hebrew word *eretz* ‘country’ (Meir & Sandler 2008:52).

Initialization accounts for 22.22% of consultant A’s form borrowings (5.26% of his total borrowings), 33.33% of consultant B’s

form borrowings (3.13% of his total borrowings), and 15% of consultant C's form borrowings (5.77% of her total borrowings). At least six signs in my data involve initialization for some of the consultants: SDEROT, RAANANA, JERICHO, BABYLON, ZION, and KERIOT.

The sign for the modern city of Sderot is unique among the initialized signs in my data because for two consultants, it is also a simple loan translation sign from the Hebrew word *sderot* meaning 'avenues' or 'boulevards' which is also initialized with the handshape representing the letter ש [s]. It is part of a family of initialized signs (RECHOV 'street', KVISH 'highway', and DERECH 'way' or 'road') which are based on an earlier non-initialized sign meaning 'way' or 'path'. Each sign keeps the same movement as the original sign, but uses a different handshape to represent the first letter of the Hebrew words they represent.<sup>32</sup>

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<sup>32</sup> Meir & Sandler (2008:53) mention this family of initialized signs on a negative note, saying that in some cases, “[d]istinctions are made by initialization that signers just don't like. One example is the introduction of different initializations to distinguish STREET from AVENUE or ROAD. One reason for rejecting these distinctions may be aesthetic. The fingerspelled handshapes detract from the pleasing iconicity of the native sign. As always with language, it is those who use it as their primary means of communication who ultimately determine which new forms will stick.”

For the modern city of Ra'anana, all three consultants had similar signs involving some variation; they may be adaptations of the initialized sign RECHOV ‘street’ just mentioned. The etymology for RAANANA is that it represents a long tourist street in the city like Broadway. JERICHO is another sign which may have developed from an initialized sign; it is a special kind of simple loan translation of the Hebrew word *yarok* meaning ‘green’. The Hebrew name for Jericho appears to have been pre-adapted, changing the Hebrew word slightly to *yarok*. The ISL YAROK meaning ‘green’ appears to be an initialized sign, in which the handshape “Y” representing the first Hebrew letter (yod) of the word, shakes slightly back and forth in neutral space. This type of sign is explained in section 4.2.3.

One consultant signed BABYLON בָּבֶל with what appears to be an initialization. (The signer did not happen to know the etymology for this sign.) The handshape is the same as that which represents ב [v], the middle letter of the Hebrew word. The first and second consonants are the same, except for the pointing: a small dot, called “dagesh”, that distinguishes “hard” (stop) consonants from “soft” (fricative) ones. Also interesting to note is that the handshapes B and V are similar (preserving iconically the similarity of Hebrew written letters): B is the B

hand and V is the B hand with spread fingers.<sup>33</sup> I do not classify her sign as a fingerspelling because it includes a side-to-side oscillating movement not typical of fingerspelling.<sup>34</sup>

One of the signs representing Mount Zion (ZION) is an initialization of the first letter **ש** tsade which moves in a path from a fairly central point in signing neutral space outward to the side. One sign for KERIOTH is the last of the initializations. Its handshape is similar to that representing **פ**, the letter qof [k]. Without displacing the forearm, the wrist moves the hand from vertical, forwards to horizontal, and back about 90 degrees to vertical in front of the torso.

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<sup>33</sup> There are six letters in the Hebrew alphabet which can have the dagesh added; this makes the consonant ‘hard’ rather than ‘soft’. However only three of these letters still mark a difference in pronunciation between ‘soft’ and ‘hard’ consonants in Modern Hebrew. The three distinctions in pronunciation are [hard/soft]: [b/v] [k/kh] [p/f]. It is only these three of the six letters which also show a difference in the fingerspelling. There is a slight difference in handshape between the letters of each pair.

<sup>34</sup> I am speculating here, but it is conceivable that the sign may have incorporated both the B and the V handshapes following the first two letters of the Hebrew writing. And this change of handshape may have changed to the oscillating V handshape due to the fact that the spreading of fingers is not a typical sign movement for signs within ISL, whereas the oscillation is.

#### *4.1.3 Hebrew oral language drills*

Hebrew oral drill signs are made from the handshapes/movement combinations used to teach spoken Hebrew to Deaf children in school. This does not seem to have been used as a fingerspelling system, but simply as drills at the oral school to teach Deaf students how to pronounce Hebrew words. I assume that it is a system used primarily by hearing people for educational use. These are like initializations in that each involves a movement typical of native signs, but the handshape and movement are drawn from the system of oral drills rather than the fingerspelling system. The handshape/movement combination generally represents the first letter of the Hebrew place name and does not occur in combination with other oral Hebrew drills.

Hebrew oral drills account for 11.11% of consultant A's form borrowings (2.63% of his total borrowings), 66.67% of consultant B's form borrowings (6.25% of his total borrowings), and 40% of consultant C's form borrowings (15.38% of her total borrowings). There is only one place name that includes a Hebrew oral drill that all three consultants sign similarly: RAMLA. Two consultants described the etymology of the sign as being the rolled R symbol used in oral teaching. All sign RAMLA one-handed with a variation of the "5" handshape which includes finger-wiggling. Other minor aspects of articulation vary among the signers.

Consultant B and C have several other signs which include another Hebrew oral drill; Consultant C's one-morpheme sign for the

modern town of Kiriath-Bialik uses this drill. It is made with the curved index hand which starts at the mouth and then moves downwards.<sup>35</sup> The actual sound that it represents was not mentioned, but it is likely to be the q [k] sound, representing the first letter of the Hebrew word Kiriath, meaning ‘city of’. There are four compound signs which use this same handshape/movement component as the first half of the sign, and all four have a similar first Hebrew component as well: KIRIATH+SEPHER, KIRIATH+ARBA, KIRIATH+BAAL and KERIOT. Consultant C uses this Hebrew oral drill in all four of these signs; consultant B only uses this oral drill in his signs KIRIAT+SEPHER and KIRIATH+ARBA. Consultant A does not use this oral drill in his signs.

Consultant C has two more compound signs which include oral Hebrew drills as the second component of the sign: HEBRON and EN-GEDI. HEBRON is a combination sign, beginning with a partial fingerspelling for the first letter ה (chef) of the word *Hevron* followed by a Hebrew oral drill. This handshape/movement combination seems to be the same as the one used in RAMLA for the sound [r]. EN-GEDI is a sign beginning with the prefix loan translation EN- meaning ‘eye’ followed by the Hebrew oral drill representing the sound [g], the first sound of the

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<sup>35</sup> The “index hand” is the closed fist with the index finger raised. In this sign, the two joints closest to the fingertip are slightly bent.

word *gedi* ‘goat’. This handshape/movement combination is the “2” handshape with the fingertips tapping at the throat.

#### *4.1.4 Mouthing*

Different kinds of mouth movements have been identified in sign languages, distinguishing mainly native mouth movements (which are not thought to be based on contact with a spoken language) from mouthings that have been lexically borrowed from a spoken language. The presence or absence of sound with the mouth movements is not of concern; what is important is the movement of the mouth and/or tongue.

The borrowing of mouthings is a more direct kind of form borrowing than fingerspelling, initialization and Hebrew oral drills. In mouthing there is a direct transfer into the borrowing language; there is no need for adaptation. The three other kinds of form borrowing require an adaptation from the donor language before the borrowed element enters the borrowing language.

In my data there are no native mouth morphemes (which stand alone apart from a sign); however, there are some lexically borrowed mouthings. In general this category of linguistic component can be found in one of two forms: 1) complete mouthing in which a whole word or compound is mouthed or 2) partial mouthing in which a single syllable or part of a compound is mouthed, often but not always the first.

Meir & Sandler (2008:160) describe mouthing as: “the use of the mouth to introduce elements from the spoken language into ISL—the mouthing of Hebrew words. Interestingly, mouthing has structural characteristics of its own.” They also compare mouthing in ISL and in other European sign languages to that in ASL, stating the following (p. 176):

There is apparently more mouthing found in ISL and in many European sign languages than in American Sign Language. The reasons may be related to the education systems and social norms within the community. It has also been suggested that ASL uses fingerspelling of English words much more than ISL or many European sign languages, introducing elements from the ambient spoken language without mouthing. In places where fingerspelling has not caught on to the same extent, borrowing from the spoken language takes the form of mouthing.

All three of the Deaf consultants in this research fully mouthed most if not all of the ISL place name signs, even one-morpheme signs which correspond to longer or compounded Hebrew names such as *Mevasseret Zion*, and loan translation signs such as for the city of

*Beth-Shemesh* in which the meaning of half of the compound Hebrew word has been dropped.<sup>36</sup> Due to the pervasive nature of this kind of borrowing, I did not include it in the percentages of different kinds of borrowings.

One of my ISL Deaf consultants explained to me that if they had to mention in ISL a place that did not have an established sign, for example a mountain or a river, then they would sign the generic sign for MOUNTAIN or RIVER, etc, and mouth the Hebrew name of the place.

Meir & Sandler (2008:178) also document this phenomenon involving the mouthing of a Hebrew place name (Port Said) with a generic sign (NAMAL meaning ‘port’):

Another example occurred in a story told by a man about his immigration from Greece to Israel. The message included a combination of signing and mouthing, in which each conveyed different information. The sentence contained the sign, COME, accompanied by the mouthing of the word, ‘Greece’, meaning, ‘(the boat) came to Greece’. Afterwards, the man recounts that

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<sup>36</sup> In this section on mouthing, I have italicized the Hebrew place names to emphasize the mouthing according to the Hebrew pronunciation of place names. This follows the convention in my thesis of italicizing words that are English transcriptions of Hebrew words.

the boat was anchored at the port of Port Said. He signed PORT (*namal* in Hebrew), and mouthed, ‘Port Said’. Deaf research assistants we consulted say that this phenomenon of a mismatch between the mouthed and signed word is neither marginal nor restricted to a few specific signs, but that it is relatively common. It adds another element of simultaneity to the structure of the message in ISL, and another challenge to those who would like to learn it.

In some cases different mouthings can accompany signs which are identical in their manual component, marking the signs as separate lexical items. Meir & Sandler (2008:177) document this: “Names of people, places, and countries are often accompanied by mouthing. Sometimes, one sign represents more than one place, and the mouthing serves to disambiguate the two. For example, the sign for two towns in Israel where wine is made, *Rishon Leziyon* and *Zichron Yaakov*, is simply, WINE. The mouthing distinguishes them from WINE and from each other.”

It is interesting to note at this point that out of all the data from the three consultants, there are only four cases in which signs are not fully mouthed. Consultant B mouthed all but two signs for biblical places (SEPHARAD and TEL\_AVIV), while both consultants B and C partially mouthed the first half of the name (*Rishon*, meaning ‘first’) of the modern

city of *Rishon Lezion*. This partial mouthing is unusual compared to the rest of the ISL signs which are fully mouthed according to Hebrew, especially when one considers that the consultants are skilled at mouthing Hebrew words. I wonder if it may indicate a more significant adaptation and incorporation of the mouthing into the sign, especially since two signers followed the same partial mouthing pattern.

It seems that the process occurring in the signs for *Rishon Lezion* and *Zichron Yaacov* is analogous to that in the families of signs that develop which are distinguished only by initialization. Functionally, the same thing is happening: a borrowed element is introduced to make distinctions within the family of semantically-related signs, while the rest of the sign stays the same.

This phenomenon occurs in two minimal pairs in my data which look very similar on the hands, but are distinguished by the mouthing: 1) *JEHUD* (Judah) and *HODU* (India); 2) *ARAV* (Arabia) and *YAFFO* (Joppa).<sup>37</sup> All three consultants mouth differences according to the Hebrew mouthing *Jehud* and *Hodu* while the manual components of their signs are basically the same. Consultant B makes very slight

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<sup>37</sup> In this context I have italicized the capital letter glosses *JEHUD*, *HODU*, *ARAV* and *YAFFO* to emphasize the Hebrew mouthing that accompanies these signs. This follows the convention in my thesis of italicizing words that refer to Hebrew pronunciations.

differences in sign formation: *JEHUD* has a slightly shorter wrist rotation and an ever so slight reversal of the direction of the wrist rotation at the end, whereas *HODU* has a slightly longer wrist rotation and no reversal at the end of the movement.

Consultant B has the same basic manual component for *ARAV* and *YAFFO* and differentiated his mouthings. *ARAV* has three taps to the nose, and *YAFFO* has only two taps. Further checking would verify if these are consistent differences in the manual portions of the signs. But it is clear from all three consultant that Hebrew mouthing help differentiate the signs as different lexical items, and therefore as different place names. So it seems that mouthing has a useful functional role to play in differentiating signs.

#### *4.1.5 Borrowing from sign languages*

Most of the contact linguistics research related to signed languages has been done in the area already mentioned above—between a signed and a spoken language. Not many in-depth studies of contact between different sign languages have been done. The complete borrowing of form and meaning of signs from other sign languages occurs in ISL as well as in other sign languages in reference to name signs of countries and their cities as well.

The other types of form borrowings already discussed in sections 4.1.1 through 4.1.3 are sign language adaptations of spoken

language elements. The borrowing of signs from one sign language into another sign language is a more direct type of borrowing than these; this means that generally, less adaptation is required to bring the sign into the borrowing language. In that way it is similar to mouthing. That is probably why Meir & Sandler (2008:53) say that many consider the borrowing of signs to be a simpler and more natural way to borrow form since the signs that are borrowed already tend to abide by constraints generally known to affect signs. However, there also are language-specific constraints – for example, handshapes in Japanese Sign Language (NS) that do not exist in ASL. So the borrowing of signs from one sign language to another may necessitate some adaptation of a sign if it includes handshapes or other elements not used in the borrowing sign language. The form borrowing of words from Modern Hebrew by way of fingerspelling, into ISL, would not introduce handshapes that do not follow ISL conventions.<sup>38</sup>

Winford's definition of distant contact was introduced in the beginning of chapter 4. Winford (2003:37) cites Weinreich: "the need to designate new things, persons, places and concepts" is the cause of most distant contact borrowing. This certainly applies when borrowing country

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<sup>38</sup> This viewpoint accepts the fingerspelling system of ISL as part of the ISL conventions.

and especially city name signs. As Deaf people have traveled more and more, the borrowing of place name signs has become more common. In this section I describe some signs in my data that may be borrowings, and at the end of this section I refer to a form of partial borrowing from ASL into ISL.

The two signs in my data that look like they may have been borrowed from other sign languages are those for the Jordan River and for India. I describe them here, but I do not include them as borrowings in the percentages of types of borrowings since they were not identified as such by the consultants. If I had specific information regarding the actual coinages of the place name signs which verified these etymologies, then I would definitely label them as borrowings. Sometimes signs can look similar to others even though they have not descended from the same sign.

It is possible that the signs that both consultants B and C use to designate the Jordan River are borrowed signs. Consultant C signed RIVER+JORDAN, the generic ISL sign meaning ‘river’ followed by what she termed as the “old” ISL sign for the country of Jordan which is the index handshape at the middle of the forehead.<sup>39</sup> Her ISL sign JORDAN

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<sup>39</sup> Consultant C’s “old” sign for JORDAN is the same as the “old” ISL sign documented in Savir (1992).

is similar to the sign for Jordan indigenous to Jordanian Sign Language (LIU) which is the “L” handshape with the thumb touching the same place at the forehead.<sup>40</sup>

Consultant B’s sign RIVER+JORDAN, follows the same pattern as C’s does: the generic ISL sign meaning ‘river’ followed by his sign for the country of Jordan, which is a handshape different from both already mentioned, and is articulated at the side of the head.<sup>41</sup> He explained that the ISL sign JORDAN used to be made at the center of the forehead [which is where the sign JORDAN, indigenous to LIU is articulated].<sup>42</sup> He went on to say that the ISL sign was moved to the side of the forehead to distinguish it from the ISL sign GERMANY, which from the viewer’s perspective was very similar to the old ISL sign for JORDAN, articulated at the center of the forehead.<sup>43</sup> Savir (1992:170-171) documents older

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<sup>40</sup> Indigenous signs for India and Jordan are documented in the World Federation of the Deaf’s (2003) book titled *Country name-signs*.

<sup>41</sup> Consultant B’s handshape is not exactly the same as the one documented in Savir (1992) for the “new” ISL sign JORDAN. However in both cases, the handshape includes an extended thumb.

<sup>42</sup> This sign for JORDAN is documented as the “older” sign in Savir (1992:170).

<sup>43</sup> This might also explain why consultant B’s handshape is slightly different from the LIU sign for Jordan.

and newer ISL signs; in this dictionary, both old and new ISL signs for JORDAN are similar to the indigenous sign.<sup>44</sup>

The ISL sign for INDIA iconically represents the Bindi (spot) worn by women in India in the middle of the forehead. The Indian sign for their country represents the Bindi as well, but it does so using the thumb, whereas in ISL, the sign is made with the index finger at the forehead. Regarding both of these signs, it is not clear whether they were actually borrowed from the sign languages used in Jordan and in India, or were independently invented in Israel. Independent invention could have happened in the case of INDIA if, by chance, the ISL sign for India referred to the same cultural item that the indigenous sign for India referred to: the Bindi.

Even though I only have two such signs in my data, ISL may have a few others. It is likely that a number of country name signs have been borrowed into ISL, especially given the documented history of the large numbers of immigrants moving to the country from all over the world. In Savir's (1992) dictionary (with line-drawings of signs), at least thirty-five ISL country signs are documented. I compared these signs with the indigenous country name signs documented in line-drawings in the book

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<sup>44</sup> The old ISL sign for JORDAN differs from the indigenous sign only in handshape, and the newer ISL sign for JORDAN differs from the indigenous sign only in location.

published by the World Federation of the Deaf (WFD) (2003).<sup>45</sup> The WFD promotes the use of indigenous place name signs out of respect for Deaf self-identity. In comparing the ISL signs with these signs, I found that almost half of them (17 out of 35) were similar if not identical to the indigenous signs. Nine of these 17 similar signs were identical to the indigenous signs: AUSTRALIA, CANADA, CZECHOSLOVAKIA, GERMANY, HOLLAND, ITALY, POLAND, ROMANIA, USA.

The interesting thing to note is that the ISL dictionary came out in 1992, eleven years before the WFD book was published. So in some cases these indigenous country name-signs have been in use in Israel for over fifteen years, and some were being used before the publication of WFD's book of indigenous signs.

A convention in Savir (1992) is the use of a star next to the word which "indicates a new sign which has gained acceptance within the deaf community or the educational system" (p. C); however, they are not actually described as "borrowings of indigenous signs." Of the 17 ISL country signs similar to the signs used indigenously by each country, five were marked in the ISL dictionary with a star as "new" signs, each one of these being similar to the indigenous signs. Each of these five

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<sup>45</sup> Differences in mouthings between signs were not taken into consideration; the WFD book illustrates each face with a generalized smiling mouth and does not show mouthings specific to each sign.

(AUSTRALIA, ITALY, JAPAN, JORDAN, and USA) also had a different older sign documented, which did not look like the indigenous sign at all except for JORDAN, already mentioned above.

The following twelve signs are not marked with a star, meaning that they probably have been in use longer than those marked with a star: BULGARIA, BELGIUM, CANADA, CZECHOSLOVAKIA, GERMANY, HOLLAND, INDIA, POLAND, ROMANIA, SYRIA, TURKEY and YUGOSLAVIA. Only one sign option is given for each of the aforementioned countries, with the exception of Romania and Syria, which each have two signs illustrated. Of the eight signs that were not identical to indigenous country signs, differences were slight: three differ only in location at the head, two have slightly different handshapes, one adds the second hand, one adds a change in handshape and one differs only in hand orientation.

A caution must be included: mere similarity of signs does not mean that a sign was actually borrowed. Similarity can also arise from iconicity motivated by a similar feature, or simply by chance. Without historical data, it is difficult to know for sure. But the large number of similar signs, and especially the ones marked as new signs, suggests that at least some of these country signs were borrowed into ISL.

The ISL sign for the city of Ramat Gan is also possibly a borrowed sign. One consultant notes that the sign refers to the candy factory in that town. The ISL sign CANDY recorded in Savir (1992:45) uses a

different handshape and movement than does RAMAT\_GAN, while RAMAT\_GAN is similar to the ASL sign CANDY. Thus it seems possible that this sign may be a borrowing of the sign CANDY from ASL or another sign language.

Lastly, there is evidence in my data of partial borrowing from one sign language to another in reference to the fingerspelling system. Schlesinger (1987:84) mentions that in the development of the ISL fingerspelling system, sixteen handshapes were borrowed from the ASL manual alphabet and were used to represent Hebrew letters, the others being “newly devised”. Some of these borrowed handshapes were adapted further to fit certain conventions of Hebrew script, such as the downward movement of certain handshapes, representing when necessary, their word-final position as mentioned in section 4.1.1.

Thirteen of the sixteen borrowed handshapes appear in signs in my data (all but one of these are in fingerspelled signs, the last one appears in an initialized sign).<sup>46</sup> Fully fingerspelled signs include the following handshapes: CARMEL (**K-R-M-L**), JOTBATHAH (**Y-T-B-Th-H**), BETH+SHEAN (Sh-**A-N**), Hinnom Valley (**H-N-M**), and Mount Sinai (**S-Y-N-Y**). One partial fingerspelling is GOLAN (**G**). The ISL “Y” is the

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<sup>46</sup> Bolded letters represent the ISL handshapes borrowed from the ASL fingerspelling system. They are listed here according to the sound they represent in Hebrew.

same as the ASL “I”, and the ISL “K” is the same as the ASL “C”. Other handshapes borrowed from ASL which do not appear in my data as fingerspellings are “D”, “S”, “P”, and “Q” [k].

At least four signs from my data may be initialized signs with a handshape borrowed from ASL: RAANANA (**R**), JERICHO (**Y**), BABYLON (**B/V**), and KERIOT (**Q**).<sup>47</sup> See section 4.1.2 for a description of these signs.

## 4.2 Borrowings of meaning

All categories which include the borrowing of meaning can generally be considered loan translations. Meaning borrowings account for the following percentages of each consultant’s total borrowings: A (76.32%), B (90.63%), and C (61.54%). ISL borrows “meaning” from Hebrew place names and expresses it in a variety of forms. The following subsections list and describe each specific type of loan translation that is found in ISL place names.

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<sup>47</sup> If these truly are initialized signs, then some adaptation of the handshapes has taken place because the handshapes used in these signs are not exactly like those on the fingerspelling chart. For example, Consultant C’s handshape in BABYLON is actually the *veth* handshape “V” which was adapted from the ASL “B” handshape.

#### 4.2.1 Simple loan translations

Simple loan translations are generally single morphemes in ISL. Each one is a translation of the common noun of its corresponding Hebrew place name. For example, the sign for the fortified town of Adamah is a translation of the Hebrew word *adamah* meaning ‘ground’. The ISL sign for the place name looks like the ISL common noun for ‘ground’.

Simple loan translations account for 48.28% of consultant A’s meaning borrowings (36.84% of his total borrowings), 41.40% of consultant B’s meaning borrowings (37.50% of his total borrowings), and 56.25% of consultant C’s meaning borrowings (34.62% of her total borrowings).

In the case where both Hebrew and ISL words are one morpheme each, creating the new place name sign causes a new referent of ‘location’ to be attached to a common noun or other word. It is not actually a new sign, but the meaning has been extended to refer to a new object, in this case, a location. Examples of a few of these place name signs for actual specific locations are ADAMAH ‘ground’ and PISGAH ‘peak’; they are not just references to the generic common nouns meaning ‘ground’ and ‘peak’ respectively. Another biblical location is the Salt Valley, which in Hebrew is *Melach*. In English it is a loan translation, as we just call it the Salt Valley; in English, the name Salt has been translated from the Hebrew word *Melach*. Similarly in ISL, SALT is a

simple loan translation using the common noun meaning ‘salt’, referring to the Salt Valley.

This also happens occasionally when the common noun is two morphemes in one of the languages, whether the source or the target language. For example, NESHER ‘eagle’, referring to the bird and to the place name, in ISL is composed of a sign that looks like a beak followed by a sign similar to the sign BIRD, showing the wings flapping. Examples where the source language contains two morphemes are the signs for Beth-Shemesh ‘house of sun’, Bethlehem ‘house of bread’, and Beth-Emek ‘place of the valley’. For some signers they involve the deletion of the first Hebrew morpheme, which is the generic term *Beth* ‘house’.<sup>48</sup> In these cases they are one-morpheme signs similar to common nouns, loan translations of the second Hebrew morpheme: SHEMESH ‘sun’, LECHEM ‘bread’ and EMEK ‘valley’.

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<sup>48</sup> I do not know whether the deletion occurred when the word was borrowed from Hebrew or after it had been incorporated into ISL. It could be that the person who coined the signs translated and signed only the second half of the Hebrew word in each case. Or it could be that originally the sign was a calque including translations of each of the two Hebrew words that compose the name, and that over time the first morpheme BETH ‘house’ was deleted. The word *beth* is used in over fifty different Biblical place names. It seems to be used as a generic term which could sometimes be translated not just literally as ‘house’, but also as ‘place’.

The most common borrowed element in complex signs, found especially in the calques (see section 4.2.4) is the simple loan translation. They can also be found within combination signs, either as the first or the second part. The signs for the cities of Kiriath-Sepher and Kiriath-Arba are two examples in which a simple loan translation appears as the second element of a combination sign. In both cases the first element is the Hebrew oral drill for “Q”, which represents the Hebrew word *kiriath* ‘city’ in KIRIATH+SEPHER ‘city of book’ and KIRIATH+ARBA ‘city of four’. In these two signs, the simple loan translations are the second elements which are common nouns in themselves: SEPHER ‘book’ and ARBA ‘four’ respectively.

A simple loan translation can also be the first element of a compound preceding a variety of borrowings, including partial or full fingerspellings, an oral Hebrew drill, or a loan translation of a preadapted Hebrew spelling.

The semantic content of these loan translations includes astronomy (SHEMESH, ‘sun’), animals (NESHER ‘eagle’, PHARPAR ‘butterfly’), food (LECHEM ‘bread’, ESHCOL ‘grape cluster’), generic geographic terms (PISGAH ‘mountain peak’, EMEK ‘valley’), geographic elements (ADAMAH ‘ground’, or MELACH ‘salt’), human characteristics (EN ‘eye’), human actions (MODIIN ‘announce’), number (ARBA ‘four’), and a manufactured object (SEPHER ‘book’).

#### *4.2.2 Initialized loan translations*

The category of initialized loan translation includes only one sign and accounts for 3.49% of consultant B's meaning borrowings (3.13% of his total borrowings), and 6.25% of consultant C's meaning borrowings (3.85% of her total borrowings). Consultant A did not have any in this data. The sign for the city of Sderot, which means 'avenues' in Hebrew, is described in section 4.1.2. It is based on and incorporates the movement and location of the earlier non-initialized sign for 'way' or 'path'. SDEROT is different from simple loan translations because it also incorporates an initialization into the sign, using the handshape which represents the first letter **ש** sin [s] of the Hebrew word *Sderot*.<sup>49</sup>

#### *4.2.3 Loan translations of pre-adapted Hebrew spelling*

Loan translations of pre-adapted Hebrew spelling account for 13.79% of consultant A's meaning borrowings (10.53% of his total borrowings), 20.69% of consultant B's meaning borrowings (18.75% of

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<sup>49</sup> In this category, I originally incorrectly included what I thought was a combination sign, JAVNEH, with the first morpheme being an initialization with the letter yod [y] oscillating in place, followed by a person's name sign. I realized at last minute that actually the first initialized part was not part of this sign. So this sign should not have been included in the category of borrowings. I was not able to change the percentages to adjust for this minor mistake.

his total borrowings), and 12.50% of consultant C's meaning borrowings (7.69% of her total borrowings).

Of the six signs in this category, the sign JUDAH was the only one which was the same for all three consultants. The Hebrew letters of its name יְהוּדָה Yehuda (Judah) are very similar to the letters in הָדוּ Hodu (India). Before translating the Hebrew word *Yehuda* into ISL, the Hebrew spelling was adapted to look like the Hebrew word meaning 'India' *Hodu*. Then the Hebrew word *Hodu* was translated into ISL as the sign INDIA. The Hebrew word that is translated (*Hodu*) is not mouthed in the place name sign JUDAH, but the Hebrew place name that it represents, *Yehuda* (Judah) is mouthed. The mouthing distinguish the two signs, as they represent the original Hebrew words for the places.

Other signs in this category are JERICHO (translated from the Hebrew word *yarok* meaning 'green'), NAHARIYA (translated from *nahar* meaning 'river'), and DOR (translated from *doar* meaning 'post-office'). This last sign DOR is also used in a two-morpheme sign with the prefix En-: En-Dor (EYE-POST\_OFFICE); it is the only loan translation of pre-adapted Hebrew spelling used within a complex sign.

The place names of Harmon and Hermon are similar in the Hebrew and have an interesting etymology in ISL that requires an extended explanation. Mount Hermon is a well-known landmark in Israel whereas Harmon is an unknown region mentioned once in the Tanach. It is likely that the consultants identified both place names with the same place

(Mount Hermon) since the Biblical Hebrew script was used in the lists, rather than the Modern Hebrew cursive script. The ISL sign is the same for both places, and uses the sign MELEK meaning ‘king’. The Hebrew name spelling of *Hermon* is similar to the Hebrew word *armon* ‘palace’. It is possible that at some point in the development of the sign for Mount Hermon, the Hebrew word *Hermon* was changed to *armon*. The reason for this is that an expression similar in meaning to *armon* ‘palace’ is *bayt hamelek* ‘house of the king’. Deletion of the generic *bayt* ‘house’ was probably also somehow involved, leaving only a reference to the Hebrew word *melek* ‘king’. Translating the Hebrew word *melek* into ISL, one gets the sign MELEK meaning ‘king’. Then this sign meaning ‘king’ was given the new referent of Mount Hermon.

#### 4.2.4 Calques

Calques are prototypical loan translations, complex signs made up of two sequential parts in both donor and receiving languages. The first and second morphemes are generally common nouns which are translated individually from the donor to the receiving language, keeping the same ordering. Basically, a calque is a simple loan translation followed by another simple loan translation. These are not combination signs since each part is of the same type of borrowing element: a simple loan translation.

Calques account for 37.93% of consultant A's meaning borrowings (28.95% of his total borrowings), 34.48% of consultant B's meaning borrowings (31.25% of his total borrowings), and 25% of consultant C's meaning borrowings (15.38% of her total borrowings).

I have split up the calques into more specific groups which represent different morphosyntactic structures. This is helpful in seeing how the same process of forming calques can work within slightly different structures in ISL: signs with a prefix, reduplicated signs, and compound signs.

Three of the four signs with a prefix in my data are calques. They are signs for Biblical places and all use the prefix *En-* (EYE-): *En-Gedi* (EYE-GOAT), *En-Shemesh* (EYE-SUN), and *En-Tappuah* (EYE-APPLE). Modern cities in Israel that do not have a Biblical counterpart do not seem to use this structure. *En-* has at least two senses of meaning: 'spring' and 'eye'. In Biblical times, the land surrounding the springs (which provided a much needed water supply) became the sites where people lived. Thus towns were sometimes named after the springs. Many of these areas have probably already been built up, and so it may be that modern cities are not named with the *En-* prefix anymore.

There is one reduplicated sign which is a calque: the sign for the town of Givataim. It is slightly different than all the other ISL calques in my data in terms of how the sign was translated. In the Hebrew word *Givataim*, the second Hebrew morpheme *-aim* actually carries the

meaning of ‘two’, while the sign is actually HILL-HILL, not HILL+TWO. So each half of the Hebrew word is not translated separately; rather the meaning of *Givataim* as a whole is translated, using the morphological process of reduplication to communicate the meaning.

The most numerous of the ISL calques are compound calques. These include the following places: Beth-Emek (HOUSE+VALLEY), Beth-Shemesh (HOUSE+SUN), Beth-Tappuah (HOUSE+APPLE), Bethlehem (HOUSE+BREAD), Ir-Shemesh (CITY+SUN), Yam hammelach (SEA+SALT) (Dead Sea), and Kfar Saba (VILLAGE+GRANDFATHER). The first morpheme of each of these signs is a generic sign translated from the following Hebrew words: *beth* ‘house’ or ‘place’, *ir* ‘city’, *yam* ‘sea’ and *kfar* ‘village’.<sup>50</sup>

### 4.3 Combination signs with borrowings

Combination signs are complex signs that involve at least two different types of borrowing, or a borrowing plus another element in the sign which is not a borrowing.<sup>51</sup> In the following discussion, numbers of signs include separate listings for each of the consultant’s signs for the

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<sup>50</sup> Bethlehem, Beth-Emek, and Beth-Shemesh are signed by some as simple loan translations, the first generic morpheme being deleted, as noted in section 4.2.1.

<sup>51</sup> Signs borrowed from other sign languages are not included in this section’s analysis because I did not have any clear cases of sign borrowings.

same place. Specific examples of these combination signs have already been discussed above under the particular kind of borrowing involved. Consultant A has 14 combination signs which include borrowings; consultant B has 3 combination signs which include borrowings; and consultant C has 17 combination signs which include borrowings. A few generalizations can be made on the basis of these signs.

Simple loan translations make up the largest borrowed component of combination signs, with a total of 13. Other than simple loan translations, no kinds of borrowing (whether form or meaning) are found repeated in the same sign; for example, a fingerspelling as first part of a complex sign, followed by a fingerspelling as the second part. Regardless of position in the complex sign, the next largest categories of borrowed components (after simple loan translations) are fingerspellings and oral Hebrew drills, which occur evenly with 8 in each category.

When considering the number of signs, the most common pattern in the combination signs is the occurrence of a simple loan translation as the second morpheme of a complex sign (7). Simple loan translation signs are preceded mostly by a Hebrew oral drill sign (5), but also by a generic sign (2).

The next most common combination sign occurs with the first morpheme being either a simple loan translation sign (6) or a Hebrew oral drill sign (6). A Hebrew oral drill sign can be followed mostly by a simple loan translation (5) or a generic sign (1).

A simple loan translation sign as the first part of a complex sign is also the most versatile kind of morpheme in terms of the combinations it can make with other types of morphemes such as other simple loan translations, full or partial fingerspellings, loan-translations of a pre-adapted Hebrew spelling or Hebrew oral drill signs. The second most versatile kind of morpheme which can begin a combination sign is a partial fingerspelling which uses only the first letter of the Hebrew morpheme. It can be followed by a Hebrew oral drill sign, a generic sign or a reduplicated sign.

All the types of morphemes which involve borrowings, whether of form or meaning, appear as the second component in a complex sign except for initialized signs. Loan translations of pre-adapted Hebrew spellings and full fingerspellings do not occur as the first morpheme of a complex sign. An oral drill sign appears either before or after a simple loan translation sign, and a partial fingerspelling sign appears either before or after a generic sign. There are no other kinds of pairings in my data other than these.

## CHAPTER 5

### SEMANTIC CONTENT OF ISL TOPOONYMS

A third way of classifying place names, one that is very common in toponymic studies, is according to their etymology (semantic content), what people often refer to as the meaning of a name. This does not refer to meaning in the ordinary sense, but rather to the meanings of the morpheme(s) that make up the sign or to some other basis on which the name was coined, which in sign languages is generally its iconicity.

In this chapter, I examine ISL place names from this perspective, beginning with a discussion of the challenges in doing this kind of analysis (section 5.1). Then I deal with the importance of researching the original coinages of names (section 5.2). I follow that with a discussion of other sign language studies related to etymologies (section 5.3). In the last half of this chapter (section 5.4) I give the specific results of this research, including a breakdown into four main categories based on what places have been named after: 1) environmental origin, 2) historical origin, 3) another name, and 4) unanalyzable.

## 5.1 Challenges

Etymologies are often difficult to analyze due to many different factors:

- lack of information on sign coinages,
- differentiating between the meaning of the morphemes in a name and what the words have been named after,
- fuzzy categories,
- multi-word names which can be included in more than one category,
- separating out which parts are generic,
- borrowings which overlap semantic categories, and
- lack of studies on borrowings from other sign languages.

In this section I address each of these challenges, and how I have chosen to deal with them in this research.

First, there is a lack of recorded histories of those who invented the signs, and thus there is no way to know for certain why the names were chosen. Peng & Clouse (1977:305-306) mention this in regard to place names in Japanese Sign Language. Even when eliciting etymologies from native signers, one may not discover the particular connection between the place name and the etymology. Sutton-Spence & Woll (1998:219) also mention this problem with signs in general, not just name signs. They write, “It is worth making the point here that we often do not know where a sign came from. We cannot always be sure of a sign’s history...People

may have their own favourite theory about where a sign comes from, but there is often no firm proof as to the source of a sign. Sometimes the etymology that is given is interesting in its own right, whether or not we can prove it.”

The difficulty is lessened with the acknowledgement that one is not dealing with ‘facts’ but rather is engaged in making educated guesses. Once that is clear, it is not hard in many cases to come up with reasonable hypotheses about word origins. Anderson (2007:83) writes, “In many names, particularly place names, common-word components remain transparent, synchronically accessible, and presumably, therefore, potentially part of the lexical representation of the name, not merely an etymology.” He continues to say, “Most—perhaps all—naming traditions clearly originate in processes of naming based on common nouns or other categories” (p. 92).

The second difficulty: it is easy to blur the distinction between

- 1) the meanings of the morphemes which compose the name signs and
- 2) the actual things that the place name was named after. In other words, there are two main aspects to the etymologies of place names:
  - 1) the common words or other names preserved in a place name and
  - 2) the larger phrases that these common words or names may have been a part of at the actual point of coinage.

An example from my data better illustrates this distinction. I have classified the sign for Mount Hermon under man-made structures

because of its etymology ‘house of the king’ (the palace). The actual sign looks like the common noun KING, but the place name sign is based on the Hebrew word *armon* meaning ‘house of the king’, or ‘palace’ referring to the structure, not to the king. 1) The first aspect of the etymology is KING. 2) The second aspect of the etymology is ‘palace’. The aspect that one is focusing on will determine the classification.

In my research I tried to classify names according to this second aspect as much as possible, based on the etymologies given by the consultants. I chose to focus on this aspect of naming because it expresses more clearly the motivation for the name, and therefore what was important to the namer. With reference to the importance of the motivation for names, Smith (1992:303-304) writes the following:

Most often names focus our attention on things that have nothing to do with the [geographic] feature. Most place names are commemorations, idealizations, coinages, shifts, and transfers, which predicate very little about the feature but tell us a great deal about what the namers feel is important.

Language can be used for explaining things, for expressing feelings, or for any number of purposes, but in all its uses it is a social product reflecting social values. Placenames, as artifacts of language, tell us more about local history than about the physical features they designate. What is predicated about the

features is how humans related to them, the meanings brought to them.

Even though in my analysis I tried to focus on the motivation for the names, a clear distinction between the two aspects does not always exist. I asked the consultants for etymologies of the signs; I did not specifically ask for information regarding the original coinages of the signs, and no information on the actual coinages was specifically offered. In cases where the motivation for the sign was not clear to me, I analyzed as best as possible the meanings of the morphemes which compose the name signs.

The third difficulty: classifying names based on semantic content results in a set of fuzzy categories which could potentially differ depending on the analyst; therefore, flexibility is required in this part of the analysis. In some ways describing the semantic content of the ISL toponyms was one of the hardest parts of the entire analysis due to this fuzziness. Different researchers may title or group the categories differently by being more or less specific. In spoken language toponymic studies, the number of categories has varied, for example, from three large groupings with sub-divisions (environmental, historical, and borrowed) to around fifteen with no subdivisions (Zinkin 1986:62-63). Despite this variation in how words may be categorized semantically, the

categories are useful in showing which kinds of name components are typical and acceptable in a particular language.

The fourth difficulty: decisions to categorize are complicated by multi-part names in which each part may be in a different category. When gathering reflections from native signers on the meaning of signs, it is important to ask if there are parts within the place names, and if so, what the meanings of the individual parts are as well. This helps facilitate a structural analysis of the place name signs.

With regard to multi-part signs, one must decide between one of three options: to figure out a way to determine which part carries greater weight, to include a completely separate category just for multi-part signs, or to include a name under two categories if necessary. In this analysis, for the fewer than a dozen multi-part signs for each signer, I follow the last alternative. If two or more parts are in the same etymological subcategory, then I only list the sign once under that subcategory. If two or more parts represent two different etymological subcategories, then I list the place name twice, once under each category. Although there are four names in the data which are composed of three parts, none of them appear in more than two etymological subcategories.

The fifth difficulty: multi-word names may include generic terms, such as ‘mountain’, ‘valley’, and ‘place’ which refer to the feature type of the place name. In some cases it may seem that the whole sign is simply

a generic term, but on closer observation, one may notice slight differences in the movement or other parameters which distinguish a place name from a generic sign. Therefore it is important when collecting place name data to elicit and to document as many generic signs as well, so that during the analysis one can refer back to them. In appendix C I included photographs for a few of the basic generic signs in the ISL toponyms.

One must also decide how to analyze the generic terms. Many toponymic studies treat the generic terms separately from the specifier part of the name. Zinkin (1986:62) says, “Information given in the specifying constituent of a designation generally provides the bases for classifying a place name as to type.” The specifying component is the part that generally distinguishes it from other place names; that is why it is the focus of etymological studies. I followed this method in my research; therefore, I did not count generic terms as separate categories unless what looked like a generic term was the entire sign.

One can also focus on the generic components as a separate part of the analysis, and in doing so one can possibly discover dialectal variations in generic terms, as well as document generic signs in a more exhaustive way than a general dictionary of a particular sign language might.

The sixth difficulty: one must decide whether to separate out borrowed items as a separate category. If they are, then the semantic

subcategories within the borrowed category will overlap with categories for native items. Former president of the American Name Society, Fred Tarpley (1980:xii-xiii) emphasizes, “Linguistic origins must be considered apart from the categories of namegiving patterns...for they cut across divisions of name origins.” This adds another dimension to the analysis beyond a simple categorization of meanings. That is partly why I have a separate chapter on borrowings (chapter 4).

It is important to ask native speakers to identify any signs or parts of signs which come from other languages, including other sign languages. Then one must determine whether to discuss specific borrowings within each semantic category or to include borrowings as a category all by itself, as well as whether to separate out the borrowing of meanings from the borrowing of form. In this analysis form borrowings (representations of speech sounds) form a separate name-giving pattern in the subcategory titled ‘Historical’. The etymologies of loan translations (signs which get their meanings from translations of spoken language place names) are categorized by the meanings of their translations; therefore the focus is not on differences in etymological categories based on name-giving patterns within ISL compared to those of name-giving patterns in Hebrew.

The seventh difficulty: there are few sign language linguistic studies on borrowings from other sign languages, as most focus on borrowing from spoken languages. Unfortunately, I did not ask whether

the consultants knew if signs were borrowed from other sign languages, and if so, from which ones. Therefore the data here presented may include such borrowings, but I have no exact information about them.

## **5.2 Coinage of place names**

As can be seen from the extensive discussion of the challenges that concern the analysis of etymologies, it is important to seek out as much information as possible on the coinage of names. This section focuses on this aspect of toponym research. With this regard, it is beneficial to look at another of Herrick's (1983:272) references to place names as artifacts:

Literally, artifact simply refers to something made by human beings; its root appears in artifice, artificial, and article.

Certainly, to name an object is as much a human creative act as to form that object or to transform it by its use. But as a metaphor borrowed from archeology, artifact suggests that the thing created has persisted through time, and has even persisted when other things created with it (as well as those who created it) have died, decayed, moved away, or are at least no longer present. That which we call an artifact still exists and is relatively unchanged, therefore it is available for scrutiny and analysis in our attempts to reconstruct a greater understanding of the processes of social change.

From this statement, one can see that even when knowledge about the namer is lost, hypotheses can still be made about when and why a name was coined simply by examining the name itself and its component parts. This type of analysis is what I have attempted in this study; however, it is even more useful to gather information on the actual coinages of place name signs, if it is available. Knowing the naming patterns can provide a culturally-appropriate guide to the development of new place name signs. Usually this information is much more difficult to obtain and requires much research, diligence, and time, as one seeks out the actual histories of the name signs through contact with different members of the community, interviews, dictionaries and other written or videotaped material. The information sought includes who created the signs, when and where, what was the motivation for the signs, and whether or not the namers knew other sign languages.

If at all possible, particular attention should be given to find out who the actual namers are, as this possibly influences the acceptability of new place name signs when they are introduced. Knowing who the namers are would also be a check on the accuracy of the information about word history. If a source knows who specifically created the word, it is more likely that their etymology for the word is an accurate reflection of the actual coinage.

If one needs to create new signs in a sign language, it would be good to find out which individuals are already known for creating

acceptable new signs within the Deaf community and to include them in the sign creation process. Others are more likely to accept new signs if they come from local Deaf leaders they respect. Apart from this, it is possible that the namers may be valued members of the community who have been influential in the development of the Deaf community. Often their place in that history has not been documented, so this research is worthwhile to help preserve their histories as well.

### **5.3 Other sign language studies**

Two sign language studies shed some light on naming patterns: for place name signs in general (Bar-Tzur 1999b) and for ISL place name signs specifically (Shunary 1968). Bar-Tzur (1999b) on his webpage classifies country and city signs from a variety of sign languages, based on the motivation for their sign origins. He gives examples from many different categories of naming: abbreviation, appearance of the city, appearance of the people, city's honoree, country's shape, distinctive dress, distinctive hat, eating habits, famous resident, famous structure, flag, historical occurrence, indigenous animal, indigenous custom, indigenous dance, legend, local climate, local terrain, meaning of the city's name, modified fingerspelling, musical instrument, national color, orthography, religious gesture, size of country, and sports. Examples of almost all of these motivations for naming can be found in ISL place names.

Shunary (1968) lists the kinds of information that ISL place names typically have been based on and gives examples: “Most place-names are based on well-known landmarks, public, religious or cultural institutions, or buildings of distinction” (p. 7). He goes on to list other bases of motivation: “Certain places are named on the bases of local natural features, landscape, traditional and historical sites, geographic, demographic, phonetic or etymological features” (p. 9). And lastly, “Some of the signs for place-names are based on the names of members of the deaf club who used to live there” (p. 10).

Shunary adds, “After most signs for places, a movement of the palm indicating ‘over there’ is made, giving the sign its geographical determinative” (p. 10). This is a technique not uncommon in other sign languages as well: the use of pointing to a specific spot in the signing space after signing the name of a place in order to give it a setting in the signing space, that can be referred back to again by pointing or signing in relationship to the place pointed to. This is especially important when different locations are mentioned, and one needs to keep track of which place is being spoken about.<sup>52</sup>

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<sup>52</sup> It appears that what Shunary (1968:10) describes is not a characteristic of the sign names themselves. It probably is a manifestation of a broader use of signing space for anaphora (the assigning of reference). One test would be to try to find whether there

Shunary (1968:9) also includes some specific information about variation between Jewish signs and Arab signs in Israel for a few towns which are in areas highly populated by Arabs, such as some parts of Jerusalem. His work does not contain any drawings of the signs, just descriptions in English. Shunary appears to say that only one Arab place name sign had actually been incorporated into ISL, the sign for Nablus (Shechem). He goes on to write, Nablus “denoted by ‘soap’...is a center for the oil and soap industry in the area. Other signs for Arab towns customarily used by the deaf of the Old City of Jerusalem have not been incorporated into ISL, as their bases do not appeal to the Israeli deaf.”

One of the consultants for my data signed what Shunary may be noting as the Arab variant for Shechem (Nablus). Another consultant gave the etymology of ‘bread’ for his sign SHECHEM and for BETHLEHEM, which look the same. Both consultant’s signs for Shechem are not very different, as they have similar handshapes and are articulated in the same location, neutral signing space. The main difference is in movement. In the signs with the etymology ‘bread’, only one hand moves, and it makes only one arc movement, the fingertips of the dominant hand tracing the back of the knuckles. The other

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is a unique space for a specific place name. If such phenomena exist; this would be an aspect of the sign names themselves and not anaphora.

consultant continues to move both hands in a circle around each other, as in a motion of washing one's hands.<sup>53</sup> The third consultant signed SHECHEM as a partial fingerspelling of the first letter "Sh". So it appears that the town of Shechem has three different variants in ISL.

Shunary (1968:9) notes another Arab sign which he says had not been incorporated into ISL. He writes, "the Arab name for Hebron...is 'grapes', as the town is central to an agricultural area. For Israelis the tomb of the Patriarchs is more significant, and this therefore serves as the base."

Shunary (1968:9) also describe sign variations for Jericho saying:

It is an example of a place which does not have a fixed sign in ISL. It is denoted by signing nearby places, 'Jerusalem', 'behind' and 'salt'. The use of salt is due to the town's proximity to the Dead Sea, which in Hebrew is called 'The Salt Sea'. The Arab sign for the town is based on a perspiring forehead, owing to the very hot climate there.

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<sup>53</sup> One possible explanation for the two similar variants of SHECHEM is that they are both based on the same sign which iconically represents the washing of one's hands with soap, alluding to the soap industry there. If there were a reason to disassociate with the etymology of the arab variant, then it could have taken on the 'folk etymology' of BREAD, not very different from it.

Lastly, Shunary mentions an Arab sign for which I have no corresponding ISL sign in my data: the city of Ramallah, which is built over the Biblical city of Ramah, the prophet Samuel's hometown. Shunary describes the ISL sign for the city as being “denoted by the sign for ‘r’...based on pronunciation of the spoken name for the town...[followed by the sign] ‘Arab’ or ‘Christian’. (The Arab sign for this town is ‘a breath of fresh air’; it is a summer resort.)” (p. 9).

## **5.4 ISL toponym etymologies**

Taking into consideration the challenges in etymology studies described in section 5.1, I present in this section an analysis of etymologies for the ISL toponyms in this study. It is important to remember that in some cases the connection between the etymology and the sign may not be very clear. I have only included etymological information which seems reasonable from the data collected from the consultants, dictionaries and other ISL references. It would be a fascinating study to delve more deeply into these etymologies.

I have divided the place name etymologies into three main classes (environmental, historical, and names) patterned after categories in Zinkin (1986), along with a small class of signs with unanalyzable etymologies. This small number of classes along with specific subcategories makes the classification “as simple and workable as possible” (p. 63).

The environmental class includes names which refer to physical features found in the area. The historical class refers to names which are based on historical and cultural influences, such as references to human characteristics, actions or events, speech sounds, etc. Both the environmental and historical classes have a miscellaneous subcategory in which I include place names that did not seem to cluster in any way into other subcategories.

I call the third class ‘names’ instead of ‘borrowed names’, Zinkin’s term, to avoid the confusion of her term with the use of ‘borrowing’ in the present study, which refers to any language information that has been taken from or patterned on another language. Zinkin refers to ‘borrowed names’ as those whose origin is simply another *place name*. My definition of what is classified under the ‘name’ class in this research is different because it includes not just signs that are based on other place names but also those based on people’s names.

The signs for each Deaf consultant were counted separately. So, for the total number of 92 Hebrew place names in this research, the resulting number of 286 tokens includes separate responses for each signer, as well as some place names which are listed twice under different subcategories. (There are no more than a dozen of these per signer.) The largest class is environmental, followed by the historical. The last main category is names, and this is followed by the unanalyzable class. In the following sections I describe the subcategories of each of

these classes and give the total number of signs and percentages for each, along with examples from my data.

#### 5.4.1 Environmental

The signs based on environmental references clearly composed the largest group: 136 signs, 47.6% of the total number of signs. Of these 136 signs, 31.6% (43) are within the subcategory of geography, which refers to a geographic feature, element or map depiction. Most often a geographic feature is represented, such as can be seen in the following signs all of which are loan translations from Hebrew: BETH+EMEK (HOUSE+VALLEY), GIVATAIM (HILL+HILL), and NAHARIYA (RIVER). With regard to this last sign it is interesting to note that the Ga'aton River runs through the city, and that the city gets its Hebrew name from the word *nahar* ‘river’. The ISL sign preserves the same meaning by using the handshape and movement of the sign NAHAR ‘river’, but the sign moves downward vertically rather than forward horizontally away from the signer to differentiate it from this generic term NAHAR ‘river’.

Some signs represent physical substances or phenomena. Two of these are loan translations: ADAMAH (GROUND, based on the meaning of the Hebrew word *adamah* ‘ground’), and YAM HAMMELACH (SEA+SALT), which many know as the Dead Sea. This second sign is from the Hebrew words *yam hammelach*: *yam* meaning ‘sea’ and *melach*

meaning ‘salt’. HINNOM\_VALLEY (which in Modern Hebrew can refer to hell) is based on the sign FIRE.

Signs that use the signing space like a slate on which to illustrate places on a map include the regions of GALILEE and SHARON; both use what appears to be a generic sign meaning ‘area’, with GALILEE forming a circle up higher, and SHARON forming a circle slightly lower showing the relative placement on a map. This group also includes the signs for BEERSHEBA and ELATH in which the hands trace a “V” in the vertical plane showing approximately where the places are located on the map. This is similar to a technique in BSL mentioned by Sutton-Spence & Woll (1998:233): “Signers will use the vertical plane of signing space as an imaginary map of the country and point to the relevant area.”

The subcategory of man-made structures has 33 tokens, constituting 24.3% of all environmental etymologies. This group includes iconic images of large structures, for example, BABYLON (TOWER) and BETH\_SHEAN (AMPHITHEATER), as well as signs which represent large structures such as ACCO (CRAZY, referring to a local mental hospital) and ASHDOD (ANCHOR, referring to the port).

References to food, including crops grown or food processed locally, make up 24 tokens of the environmental class (17.6%). ESHCOL (GRAPE\_CLUSTER) is a loan translation of *eshcol* meaning ‘[grape] cluster’. RAMAT\_GAN is based on a common noun CANDY. PETAH\_TIKVA is based on the sign JUICE, referring to an orange juice

factory specifically. RISHON\_LEZION is based on the common noun WINE.

Other subcategories are much smaller and include astronomy, animals, transportation, and temperature. All ten astronomy-related signs (7.4%) are loan translations from Hebrew into ISL, and include the sign SUN for the Hebrew word *shemesh*: BETH+SHEMESH (HOUSE+SUN), EN-SHEMESH (EYE+SUN), and IR+SHEMESH (CITY+SUN).

All eight animal-related references (5.9%) are loan translations from Hebrew: EN-GEDI (EYE-GOAT), PHARPAR River (BUTTERFLY), and NESHER (EAGLE). Eight tokens refer to transportation (5.9%). LOD is where the main international airport is located and is from the sign AIRPLANE. The other signs are based on the numbers of the buslines which run locally in the area: CARMEL (TWO+TWO), TIRAT\_HACARMEL (FIVE+FOUR).

There are eight sign tokens (5.9%) referring to temperature, including ZEFAT (COLD since it is up higher in the mountains) and TIBERIAS (HOT, which refers to either the general temperature or the hot springs which release hot water into the nearby lake, the Sea of Galilee).

The miscellaneous category includes 1.5%, two tokens of the sign LEBANON Mountains; they refer to the famed CEDARS native to the mountains of Lebanon which were once abundant. It is surprising that plants are referred to so infrequently, as is also the case to a lesser

extent with animals. This may be due to my classification system in which signs referring to agricultural products are classified under the subcategory of food instead of plants.

#### *5.4.2 Historical*

Historical is the next largest class after the environmental class. The other large class is composed of 107 sign tokens with historical bases, 37.4% of the total 286 tokens. This class includes the major subcategories of sound representations, human characteristics, and human actions or events. It is interesting that just over seventy-five percent of the sign tokens in this research which appear in two different subcategories, are listed in the historical class.

The subcategory of sound representations includes 31 tokens (29% of the total 107 sign tokens with historical bases). By definition this subcategory includes only signs which have form borrowings from spoken languages. As defined in section 4.1, form borrowings are manual representations of some form of spoken or written language. These are explained quite thoroughly in chapter 4 on borrowing. The largest number of these are signs which include the handshape/movement combinations which represent Hebrew oral drills. The next largest group is composed of fully fingerspelled Hebrew morphemes. This is followed by signs which fingerspell only the first letter of a Hebrew word, and

initialized signs which add movement to a handshape which represents a Hebrew letter.

The subcategory of human characteristics include 27 tokens, 25.2% of the total historical etymologies. This subcategory includes signs which refer in some way to human appearance or ethnicity. The sign JOPPA is based on the sign ARAB and refers to an area near Tel Aviv where more Arabs used to live. The four signs with a prefix in my data are also grouped here since they all include a translation into ISL of the Hebrew prefix *En-* meaning ‘eye’: EN-GEDI, EN-SHEMESH, EN-TAPPUAH, and EN-DOR.<sup>54</sup> Other signs with reference to appearance include: ASHKENAZ (WHITE referring to skin color), TEMAN (LOCKS, the long curls of hair that religious Jewish men grow at the sides of their face), and TEL\_AVIV<sup>55</sup> (MASK, remembering masks worn during the Purim festival when Jewish people traditionally dress up in costumes.)

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<sup>54</sup> In Hebrew *en-* can mean ‘spring’ as well as ‘eye’. I do not know if there is a separate sign in ISL meaning ‘spring [of water]’. Nor do I know if the ISL prefix EN- can mean ‘spring’ in addition to ‘eye’. If in these prefix signs, EN- really means ‘spring’ in ISL, then they should be classified under environmental names (with reference to geography), and not under the historical subcategory of human characteristics.

<sup>55</sup> In the Tanach, the name תֵּל אַבִּיב Tel Aviv refers to a location in Babylonia; near the river Chebar. This obviously is a place distinct from the modern city of Tel Aviv in Israel. In this research the name Tel Aviv appears in two lists (locations and modern

In reference to this last sign for Tel Aviv, a bit of speculation adds possible insight into an event of tremendous importance for the Israeli Deaf community, as well as an interesting historical note. The sign for Tel Aviv may be a commemoration of the Purim festival celebrated in Tel Aviv in 1936. Meir & Sandler (2008:186) write:

In the history of every community, certain events are perceived as significant, remembered collectively as milestones. For what was to become the Deaf community in Israel, a Purim parade held in Tel Aviv in 1936 was such an event. During the parade, people from the small Jerusalem [Deaf] group met other deaf people from Tel Aviv and Haifa. Their signing hands revealed their identity as Deaf people and enabled them to converse with each other. After their initial acquaintance at the parade, the now larger group began meeting on a regular basis, forming the core of a new Tel Aviv Deaf community.

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places), referring to two different places as just explained. The signs given for each of these two places are the same, and so it is possible that this is another example of ISL operating in parallel structure to the Hebrew for place names. In other words, what may be happening is that in some cases when the same Hebrew name is used for different places, the same sign may be used for the two different places as well, as mentioned in section 2.1.

In a footnote on the same page, Meir & Sandler (2008:186) add information on the significance of the Purim holiday in terms of the survival of the Jewish people. This helps to explain the importance of the Purim parade in Tel Aviv and to emphasize its commemoration in the sign for this city:

Purim is a holiday based on an elaborate biblical story full of plots and intrigues, whose main characters are the beautiful Queen Esther and her wise uncle, countered by a foolish king and his evil courtier, Haman. According to the story, the Jews of the Persian Empire foiled Haman's plan for their annihilation...Celebration of the holiday, which has been observed since the first or second century, has included costumes since the Middle Ages, and a Purim parade was initiated in the new city of Tel Aviv in 1912. By 1936, the year the parade became a milestone in the formation of the Deaf community in Israel, it was an established and widely popular event.

The last main subcategory of the historical class is that of human actions or events; it includes 18 out of the total 107 historical etymologies (16.8%). This subcategory includes the following examples: HAIFA (VIEW, the hand moves to the forehead as when one is trying to view something far in the distance), MODIIN (ANNOUNCE, a loan

translation from Hebrew), and AFULA (SPITTING out sunflower seeds).

Signs whose etymologies commemorate unusual events include

ASHKELON (Samson PUSHING\_OVER the pillars) and KIRYAT\_SHMONA (CUTTING\_OFF\_ARM during a war). Consultant A uses this last sign as the first of two parts for five different place name signs which begin in Hebrew with the word *Kiriath*: KIRIATH+ARBA, KIRIATH+BAAL, KIRIATH+BIALIK, KIRIATH+SEPHER, and KIRYAT+SHMONA.

Another subcategory of historical signs relates to religion: 10 out of 107 tokens (9.3%), including some very interesting signs which refer to important actions associated with Jewish tradition: JERUSALEM, SUCCOTH, ACCO, and BENE\_BERAK. JERUSALEM is an iconic representation of the act of KISSING the Western WALL, by bringing the hand to the mouth, and then rotating it out to touch a ‘wall’ in front of the signer. This is a specific reference to the wall in the Old City of Jerusalem known as HaKotel HaMa’aravi (the Western Wall); it includes part of the western retaining wall of the Second Temple in Jerusalem. Jews go to pray and leave written prayer requests in the cracks between the massive stones.

The sign for the place name Succoth appears to be the same as the sign for the festival SUCCOTH, which involves the hands together as if

grasping the *lulav* (palm branch).<sup>56</sup> The *lulav* is tied together with branches from two other plant species, the myrtle and the willow. Shuart (1986:54) writes, “It is the custom on each morning of Sukkot except Shabbat to wave the *lulav* [palm branch] in all directions which symbolize that God is everywhere.”

One sign ACCO represents the blowing of the *shofar*, or ram’s HORN, part of the traditional Jewish observance of Rosh HaShanah, or the Day of Atonement, the most holy day in the Jewish calendar. The last of the signs named after religious concepts is BENE\_BERAK, which appears to be the same as the sign RELIGION.

Several other smaller subcategories of historical etymologies remain: sports (8 tokens, 7.5%), small objects (5 tokens, 4.7%), numbers (4 tokens, 3.7%), and miscellaneous (4 tokens, 3.7%). The following signs refer to sports associated with the areas: METULA (known for its ICE\_SKATING rink), RAMAT\_HASHARON (known for its TENNIS courts), Mount HERMON (SKIING), and SEPHARAD (BULLFIGHTING).<sup>57</sup>

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<sup>56</sup> The Biblical name סֻכּוֹת Succoth, can refer to any of three different places: a town in the territory of Gad, a location along the route of the Exodus, or the Succoth Valley. The same ISL sign is used to indicate all three locations. This is another example of ISL signs functioning in parallel with the Hebrew names.

<sup>57</sup> It might have been better to include the sign SEPHARAD in the category of names rather than historical signs. There are different opinions regarding the location

The subcategories of numbers and small objects are somewhat arbitrarily included in the historical class, as they are simple loan-translations, and I do not know what particular things they are commemorating. Number signs include KIRIATH+ARBA (FOUR, from the Hebrew word *arba* ‘four’) and KIRYAT+SHMONA (EIGHT, from *shmona* ‘eight’). Two other signs mentioned above under the environmental subcategory could have been included with the numbers as well, but were not since they represent buslines.

References to small objects include KIRIATH+SEPHER, DOR, and EN-DOR. KIRIATH+SEPHER is based on the common noun BOOK, and the Hebrew word *sepher* means ‘book’. DOR is a representation of STAMP; this sign is a pre-adapted Hebrew spelling changed to *doar*, meaning ‘post office’. The same sign is used for ‘post office’ and ‘stamp’. Another sign is EN-DOR (EYE-STAMP), which includes the translation of *En-* (EYE) preceding the sign DOR, just explained for the previous sign.

Finally, the miscellaneous subcategory includes two signs which appear to be the same as common nouns in ISL. JERICHO is the same

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of Biblical Sepharad. Traditionally it is thought to refer to the area known today as the country of Spain. In hindsight, this ISL sign for the Biblical location called Sepharad also seems to be operating in parallel relationship with a Modern Hebrew name. See section 5.4.3.

as the sign meaning ‘green’, and Mount ZION is the same as the sign meaning ‘socialism’.

#### 5.4.3 Names

The class of names includes ISL toponyms which are based on the names of people or other places: the total is 36 tokens, 12.6% of the total sign tokens. The subcategory of personal name signs includes 22 tokens of the total 36 (61.1%). Not surprisingly it is not uncommon in ISL just as in spoken languages, for place names to commemorate national historical figures. The following ISL signs commemorate famous Jews: HERZLIYA (HERZL, visionary of the modern Jewish state)<sup>58</sup> and REHOVOTH (WEIZMANN, the first president of Israel, referring to Chaim Azriel Weizmann who lived and founded a research institute in Rehovoth).<sup>59</sup> The last of these commemorations is NAZARETH (from JESUS, who grew up in Nazareth).

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<sup>58</sup> I did not realize till late that the sign HERZLIYA may actually be a loan translation. If the iconic image of the beard is actually the personal name sign given to represent Herzl, then HERZLIYA is a loan translation. If for the place name HERZLIYA, Herzl’s beard was chosen to represent the city, then it would not be a loan translation.

<sup>59</sup> It is uncertain where exactly the Biblical location of Rehovoth is. This might be another case of a parallel relationship between Hebrew names and ISL signs.

Three signs are based on personal namesigns for individuals associated with the Deaf community in Israel: HOLON<sup>60</sup> (based on a particular Deaf boy's namesign which is based on the sign meaning 'quiet'), JAVNEH (based on a personal namesign which is based on the ISL sign meaning 'England'), and JAGUR (based on the namesign of someone who was from JERUSALEM whose namesign is from the sign meaning 'Jerusalem').<sup>61</sup> Two signs are based on a type of person: KFAR+SABA (from VILLAGE+GRANDFATHER, a loan translation from the Hebrew *kfar* 'village' plus *saba* 'grandfather') and KIRIATH+BAAL (from RULER, based on the Hebrew word *baal*, which can mean 'ruler').<sup>62</sup>

The last subcategory of the names class is composed of signs based on other place names and includes six signs, totaling 14 tokens (38.9% of the signs in this class). One token of the sign RAMAT\_HASHARON is the only sign which uses another city's sign. It is

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<sup>60</sup> The modern city of Holon is just south of Tel Aviv. The exact location of the Biblical town of Holon is not known, but from the Tanach we know that it was in the hill country territory of Judah.

<sup>61</sup> I do not know how these names got associated with particular places. Also, the modern kibbutz of Jagur, which is located southeast of Haifa, is a different location than Biblical Yagur, which is a town of south-eastern Judah.

<sup>62</sup> One signer refused to sign this last sign, which made me wonder if for some people this sign may have a taboo connotation, but I have not investigated this further.

a compound sign which begins with the sign for the city of Ramat Gan followed by the sign TENNIS. It is likely that there is a parallel relationship here between the Hebrew and ISL. Both Hebrew names for the cities of Ramat Gan and Ramat HaSharon begin with the Hebrew word *ramat*. It seems possible that the sign for Ramat Gan may have developed first. Then, because of the similarity in the Hebrew place names, the sign for Ramat HaSharon may have used the sign for Ramat Gan and then added a second sign to it which is based on something important to the area, in this case, tennis courts, in order to distinguish it from the sign for Ramat Gan.

The other five signs are based on signs for other countries. The sign for the Jordan River is the compound word RIVER+JORDAN. JUDAH (YEHUD) is a loan translation of pre-adapted Hebrew spelling from the Hebrew word *hodu*, meaning 'India'. The Hebrew mouthing of the signs JUDAH and INDIA seems to be the only thing distinguishing the two signs. One token of NAHARIYA, the sign for the town of Nahariya is based on an old ISL sign GERMANY since a group of Germans lived there.

There are at least two signs which utilize a particular parallel structure which requires some elaboration: ZAREPHATH and SIN. The Hebrew word *Zarephath* can refer to two different places: either to a biblical town or to the modern country of France. Both places have the same Hebrew name, as well as the same ISL sign. ZAREPHATH, the ISL

sign for the country of France, iconically represents the Eiffel tower. This same sign can be used to refer to the biblical town of Zarephath.

The other sign with this parallel structure is that of SIN. The Biblical Hebrew place name *Sin* can refer to two different places: either to the biblical desert of Sin in southern Israel or to the ancient town of Sin (also known as Pelusium, in Egypt). The Modern Hebrew word *Sin* can also refer to the country of China. Both Biblical and Modern *Sin* have the same Hebrew name, as well as the same ISL sign. SIN, the ISL sign that all three consultants use for the country of China, points to the outside corner of the eye. This same sign can be used to refer to the desert of Sin as well.

For both signs ZAREPHATH and SIN, it seems that the signs for the modern cities were coined first, since they include iconic images relating to the modern places and names. Then the modern signs were extended to also refer to Biblical places of the same Hebrew names. This is the case with the sign SEPHARAD as well (see section 5.4.2). The Hebrew word for Spain is *Sepharad*, and iconically pictured in the sign SEPHARAD is the Spanish matador waving the cape for the bull. Spain is known for its bull-fighting, so clearly this sign was coined for the modern country of Spain, before being extended to refer to the Biblical location of Sepharad as well. Both locations may be one and the same according to tradition, but there are differing opinions on this subject. This may also be the case with the following signs for modern/Biblical locations (each

of which can refer to two different locations) referenced in this thesis: CHINNERETH (fortified city), TEL\_AVIV, REHOVOTH, and HOLON.<sup>63</sup>

#### *5.4.4 Unanalyzable*

I have also included a fourth category, unanalyzable names. This category contains two place names, DIMONAH and PERSIA, 2.4% of the total number of place names. The signers did not happen to know where these names came from or what common nouns they might include.

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<sup>63</sup> See the following sections in the thesis for details: Chinnereth (2.1), Tel Aviv (5.4.2), Rehovoth (5.4.3), and Holon (5.4.3).

## CHAPTER 6

### CONCLUSION

Having looked at how a particular receptor language (ISL) deals with place names, as well as how other sign languages deal with place names, I would like to offer a summary procedure on how to study sign language place names. I hope this will be beneficial to others in providing a framework for studying place name systems in different sign languages. I also hope that it will help to promote translations of the rich literary heritage of many cultures (Deaf and hearing) into and from the over 100 sign languages of the world. Much of this literary heritage includes references to historical places.

Part of the task and privilege of translating any literature, including the Tanach, into sign language involves deciding how to translate each of the place names. Based on the extent of that task, a haphazard attempt at it will likely not be sufficient. After studying how one's sign language structures place names, what things they tend to be named after, and the trends towards or against borrowing elements from other languages, a translator is in a better position to go about the task of deciding what signs to borrow, which new ones to create, and what is

acceptable for place names in the sign language. In terms of a Tanach translation in particular, the borrowing of ISL place name signs is encouraged since it is the sign language used by descendants of the people group to whom the Tanach was originally given.

The first step is the collection of videorecordings and etymologies (and related coining information) of as many place names in the receptor sign language as is possible, focusing on categories that are important in the text that one wants to translate, such as some of those in this research: rivers, valleys, mountains, lands (countries), regions, cities, and fortified cities.

A study of other location categories important in the receptor language can also be useful, such as province, state, ancient vs. modern places, ruins, etc. Even if the language does not have signs for certain categories, it is a good idea to try to elicit as many categories and names as is possible, so as to discover as much as possible on how the language handles all kinds of place names and the general patterns available, for example, how generic labels are used. It is a good idea to group the place names according to like kinds which makes it easier to discover if there are generic terms or differences in how their language handles different categories of places.

And, of course, it is important to determine whether there are already established name signs for places mentioned in the literature one wants to translate, to avoid the confusion that can occur when newly

invented signs are introduced when there are already existing signs for the same places.

The second step is to analyze the signs from three perspectives.

- 1) A structural approach helps the translator to know what kinds of grammatical structures and morpheme ordering are more common as well as those permitted yet less common in their language.
- 2) An etymological analysis helps the translator to know if there are typical kinds of things after which places are named, and the range of vocabulary actually used in the names. 3) An etymological analysis helps in determining how one's sign language deals with borrowed components, and if there are any specific attitudes, positive or negative towards signs from foreign countries or languages. This helps the translator in determining whether to borrow a sign into their sign language, and if so, from which sign language. This also helps in determining specific attitudes about borrowing from spoken language(s), and whether and which kinds of borrowings of manual representations of orthographic letters or sound representations from the spoken language are permissible, acceptable and valuable.

This same procedure outlined here can be used to study the names of people in different sign languages, another important topic with regards to literary translation.

## APPENDICES

Appendix A  
Sociolinguistic interview questions

- 1) Name:
- 2) Age:
- 3) Male or Female:
- 4) Sign language use:
  - a) When did you start learning sign language?
  - b) When did you start learning Israeli Sign Language?
- 5) From whom did you learn sign language?
- 6) School:
  - a) Were you in a Deaf school or Deaf program growing up?
  - b) If yes, which Deaf school or Deaf program?
- 7) What is your highest level of education?
- 8) Deaf clubs:
  - a) Do you attend OR did you attend Deaf clubs?
  - b) If yes, which ones?
- 9) What is your occupation?
- 10) Do you want to know about the results of this research?
- 11) What languages do you know?

Appendix B  
Glossing of signs, other notational conventions and abbreviations

Examples:	Descriptions:
JERUSALEM	One word sign
RAMAT_GAN	Sign is likely one word, but two words in Hebrew
EN-GEDI	Sign with a prefix
BETH+EMEK	Compound sign
K-R-M-L	Fingerspelled sign
YAFFO	emphasis on Hebrew mouthing of a sign
<i>En Tappuah</i>	Hebrew pronunciation

Abbreviations and what they stand for:

ASL	American Sign Language
BSL	British Sign language
DGS	Deutsche Gebärdensprache (German Sign Language)
GSL	Greek Sign Language
ISL	Israeli Sign Language
NS	Nihon Syuwa (Japanese Sign Language)

## Appendix C ISL Place names

This appendix includes the ISL toponyms collected for and discussed in this thesis, accounting for 92 Hebrew place names. The following are explanations about the notations in Appendix C.

Parentheses which include words with all capital letters are used to show the etymology of the ISL sign; sometimes phrases are necessary, in which case the words with all capital letters are the best glosses of the iconicity of the sign. For loan translation signs, brackets [ ] are used with all small letters to show the etymology of the Hebrew word. When in my ISL data, I have two or more variations of the sign for one place, but they have the same ISL sign etymology, then this etymology is only listed once for all the variations, unless it is necessary to list the same etymology twice to clarify which signs are similar and which is not. The photos show sign variations even when their etymologies are the same. When the etymologies differ, then they are identified by the consultant letters A, B or C.

In some cases only one sign variation is shown when signs for the same location have the same etymology and are mostly the same, except for minor phonological differences, such as in a handshape, in a

movement, or in an orientation. Occasionally a description is given under the sign photos to describe a minor movement or handshape variation which is not noted in the photos.

In some cases the photos and arrows did not capture well the exact movement occurring in the sign; in such cases, a clarification in English is added under the photos. In other cases, when signers differed only in one area, a description of the difference is written in English below the photos. With the English description, the difference is easily imagined without the need for adding another photo to show the variation.

Fingerspelling for individual signers is also noted within the sign etymology parentheses, primarily as one capital letter for each fingerspelled letter. Some letters are difficult to express with one letter; therefore at times one fingerspelled letter is represented by two letters, the first being capitalized, and the second not (for example “Sh” or “Tz”). Photos are not given for every partially or fully fingerspelled sign since the handshapes can be found in the on-line ISL fingerspelling chart.<sup>64</sup>

The generic geographical feature that the names refer to, such as towns/cities, fortified towns, areas, regions, lands and locations are generally not labeled in the appendix for two reasons. The ISL signs

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<sup>64</sup> See the following website for the ISL fingerspelling chart:  
<http://www.theinterpretersfriend.com/terp4/fs-table.html>

generally do not include such generic terms. And, there is a pattern in my data that the same ISL sign is used to refer to different locations from within these different groups when the same Hebrew name is also used to refer to the same locations—what I call a parallel relationship in this thesis. However, when two or more locations with the same Hebrew name, have different ISL signs, then the type of geographical location is mentioned after the consultant's letter A, B or C. In this appendix, the generic terms of river, valley and mount/mountain are added in parentheses after the English place name since the ISL signs sometimes include generic signs for these.

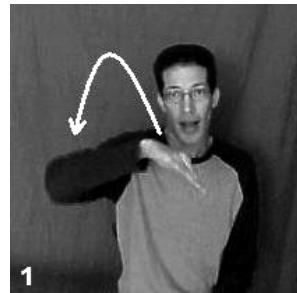
When two or more sign variations differ only because one has a generic sign and the other does not have one, then a gloss for the generic sign is given when it occurs, in parentheses with the sign etymology information. The generic term gloss is given in all capital letters; however, the generic sign is not always shown with the particular sign name. In such cases, one can refer back to the following key for some of the basic generic signs. Following the generic sign list is the list of 92 place names (in English and Hebrew), along with transcriptions, etymologies, and photos of signs.

Generic signs:

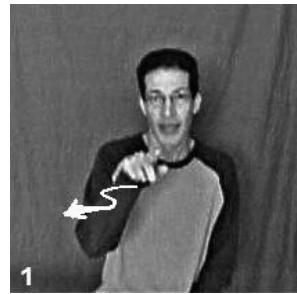
HOUSE:<sup>65</sup>



MOUNTAIN:



RIVER:

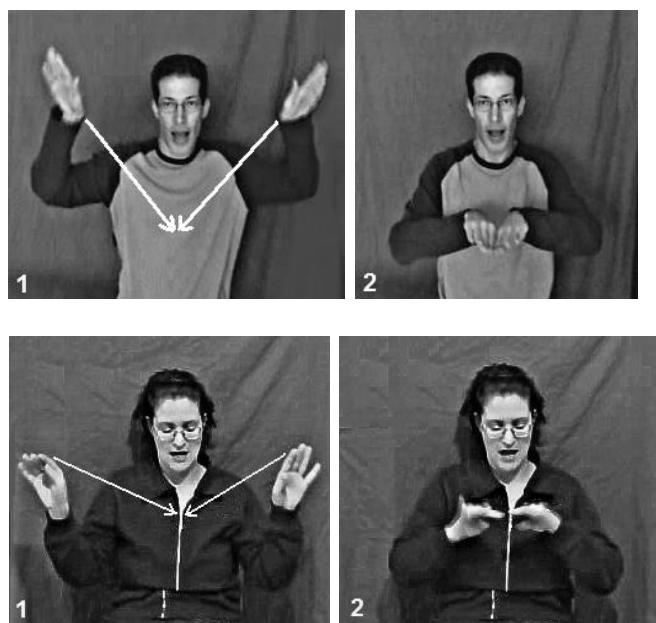


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<sup>65</sup> In the ISL toponyms, the generic sign HOUSE is a loan translation from the Hebrew word *beth*, meaning literally ‘house’; *beth* can also mean ‘place’.



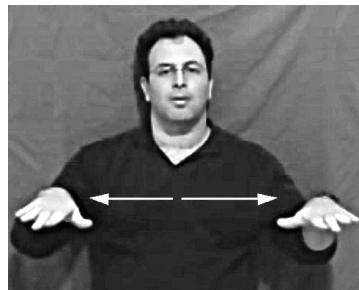
VALLEY:



1.) Acco עֲכֹן ('akkô) B & A (CRAZY, mental institution) C (SHOFAR)



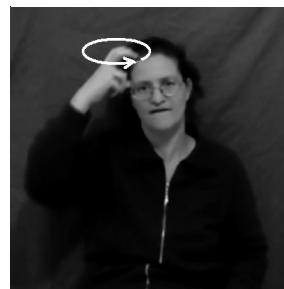
2.) Adamah אָדָמָה (ʔādāmāh) [ground] B & A (GROUND) C (GROUND)



3.) Afula עַפּוֹלָה ('ăpulâh) A (?) B & C (SPITTING sunflower seeds)



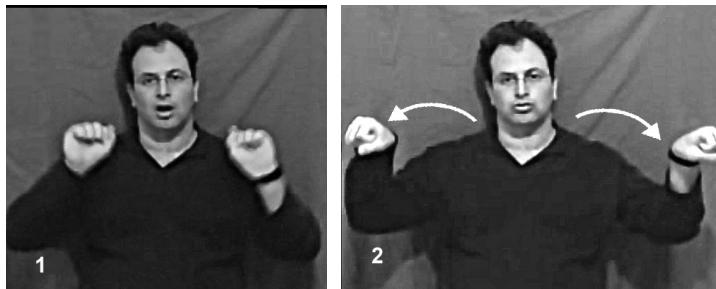
4.) Arabia עָרָב ('ărâb) A (ARAB, head covering over all but the eyes)  
B (ARAB)



5.) Ashdod אַשְׁדּוֹד (Pašdôd) B C & A (ANCHOR; referring to the port)



6.) Ashkelon אַשְׁקָלוֹן (Pašqəlôn) B C & A (Samson PUSHING over pillars)

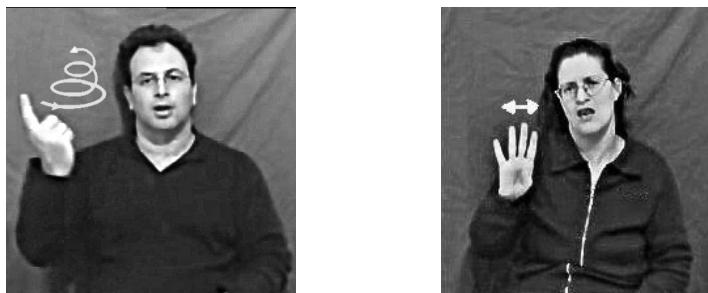


7.) Ashkenaz אַשְׁקֵנָז (Paškənəz) B & C (WHITE skin)

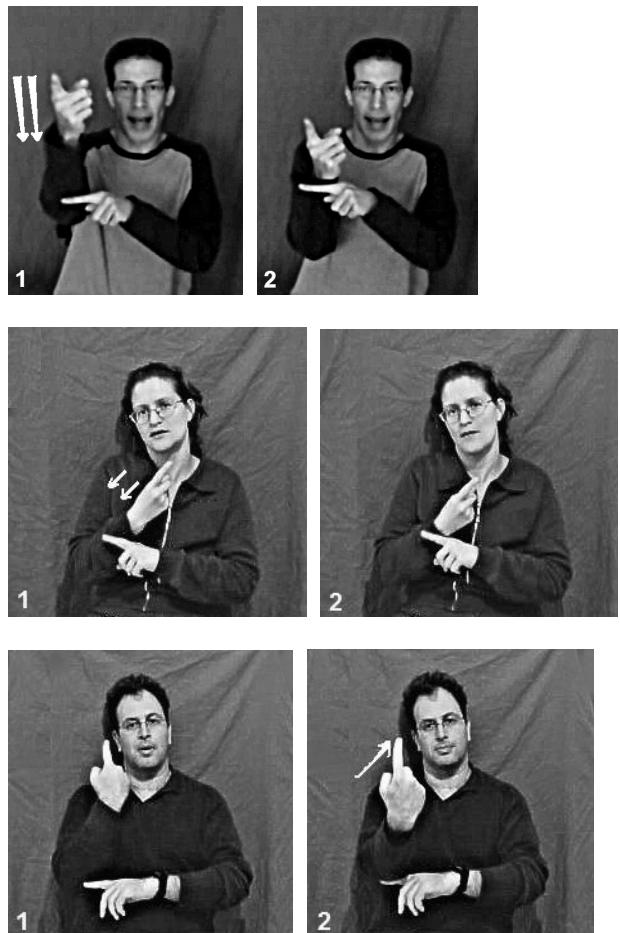


B's thumb touches cheek twice; C's thumb draws line down cheek

8.) Babylon בָּבֶל (bābel) B (TOWER of Babylon) C (initialized V)

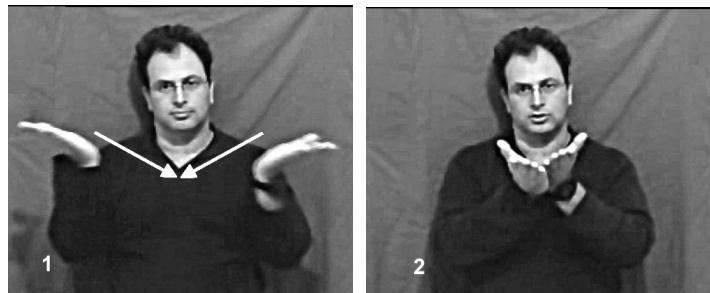


9.) Bat Yam בָּת יָם (bat yām) A C & B (WEAPON)



B's forearm moves straight forward

10.) Beersheba בְּאֵר שְׁבַע (be'ér šēba<sup>č</sup>) B C & A (shows location on map)

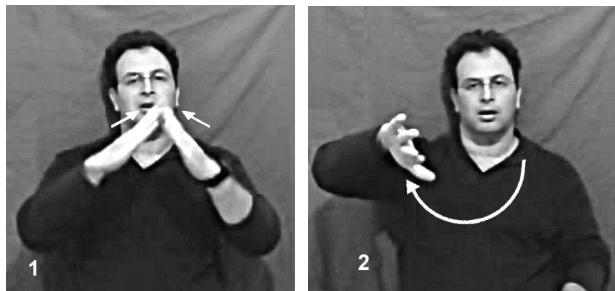


A & C's hands make a deeper V-shape as they move downwards

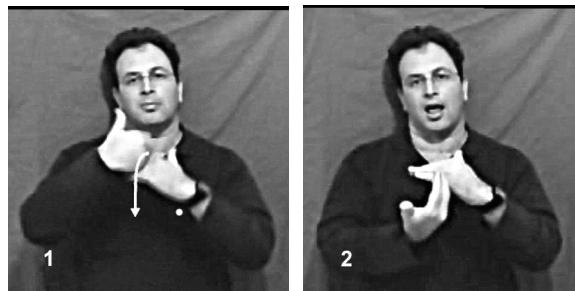
11.) Bene-Berak בְּנֵי־בֶּרָק (bənēy-bəraq) B C & A (RELIGION)



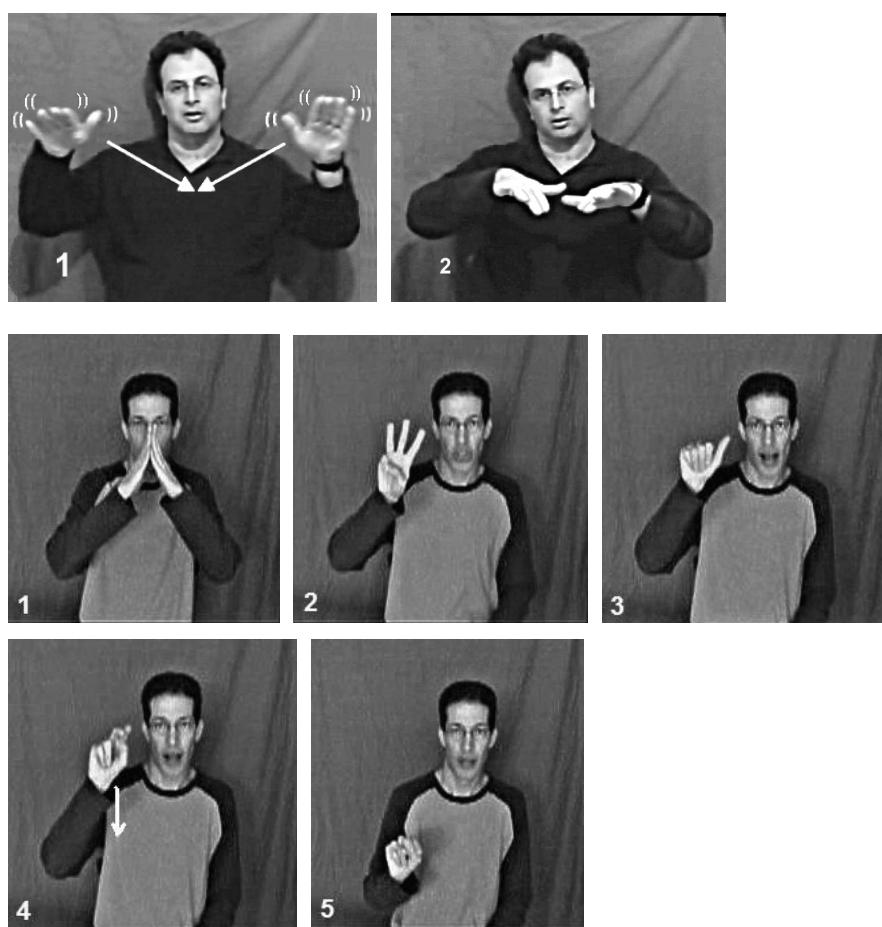
12.) Beth-Emek בֵּית הַעֲמֵק (bēȳt hā'ēmek) [house+valley]  
B (HOUSE+VALLEY) C (VALLEY) A (HOUSE+VALLEY)



13.) Bethlehem בֵּית לְחֵם (bēyt lehem) [house+bread] B & C (BREAD)  
A (HOUSE+BREAD)



14.) Beth-Shean בֵּית שָׁאַן (bēyt še'ān) [house+rest]  
B & C (AMPHITHEATER) A (HOUSE + Sh-A-N)



15.) Beth-Shemesh בֵּית־שְׁמֶשׁ (bēyt-šemeš) [house+sun] B & C (SUN)  
A (HOUSE+SUN)



16.) Beth-Tappuah בֵּית־תַּפְאָה (bēyt tappuah) [house+apple]  
B C & A (HOUSE+APPLE)



C uses only the dominant hand

17.) Beth Zur בֵּית־צָור (bēyt-sûr) [house+rock] A & C (HOUSE + Tz-U-R)

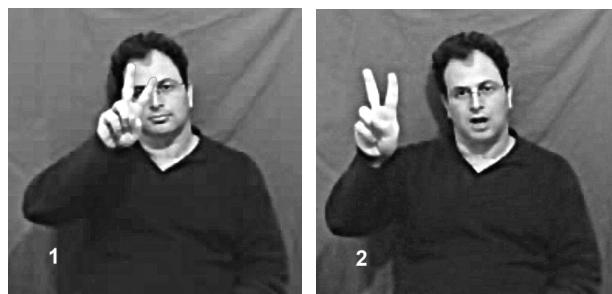


A does not repeat tap on HOUSE

18.) Carmel (Mountain & town) כַּרְמֵל (Karmel)

B (TWO+TWO; representing busline 22)

C (MOUNTAIN+TWO+TWO) A (MOUNTAIN + K-R-M-L)



hand bounces slightly forward in the start and end position

19.) Chinnereth (sea & fortified town) כִּינְרֶת (kinneret) B (SEA+HOT)

C (SEA+K) A (HOT)



20.) Dimonah דִימָנוֹה (dîmônâh) B &C (?)

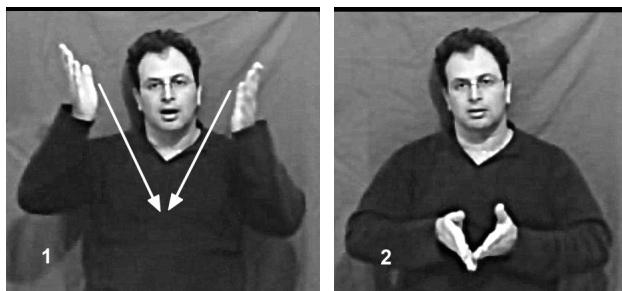


B's movement is alternating; C's movement is simultaneous

21.) Dor דָר (dô'r) B (SHORELINE) C & A (MAIL)



22.) Elath אֵילָת (’ēylat) B C & A (shows location on map)



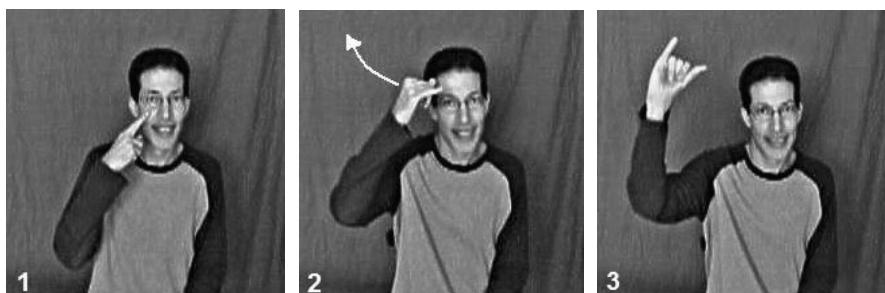
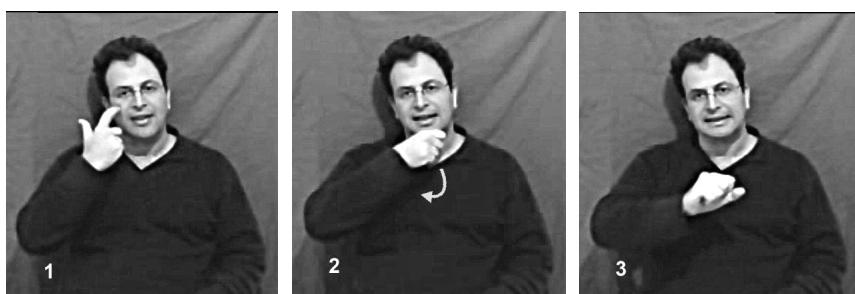
23.) En-Dor עֵין דָאָר (‘eyn dō’r) [spring/eye + generation]

B (EYE-SHORELINE) C & A (EYE-MAIL)



24.) En-Gedi עֵין גֶדִי (‘eyn gedî) [spring/eye + goat] B (EYE-GOAT)

A (EYE-GOAT) C (EYE - Hebrew oral drill G)





25.) En-Shemesh עֵין שְׁמֶשׁ (‘ēyn šemeš) [spring/eye + sun]  
B & C (EYE-SUN)



C's SUN starts with all fingertips touching & then they open

26.) En-Tappuah עֵין תָּפֹה (‘ēyn tappûah) [spring/eye + apple]  
B & A (EYE-APPLE)



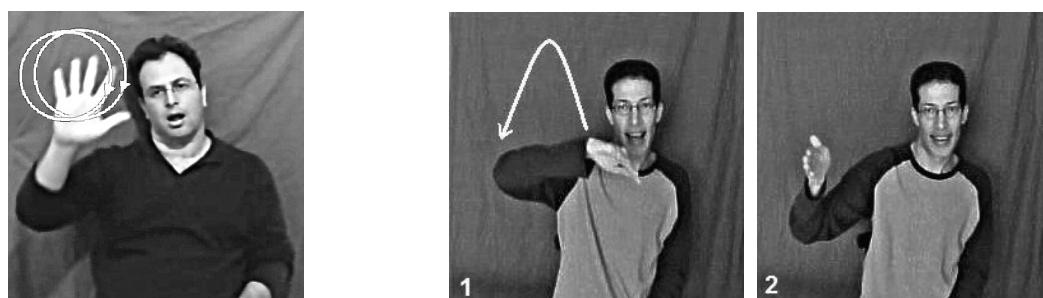
27.) Eshcol (Valley) אַשְׁכּוֹל (‘eškôl) [grape cluster] B (GRAPE\_CLUSTER)  
A (VALLEY + GRAPE\_CLUSTER) C (RIVER + GRAPE\_CLUSTER)





A oscillates the dominant hand in place for GRAPE\_CLUSTER

- 28.) Galilee גָּלִיל (gālîl) [circle/region] B & C (AREA up higher on map)  
A (MOUNTAIN)



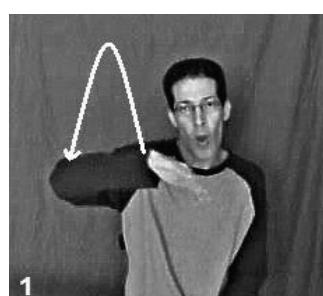
- 29.) Gaza גָּזָה (‘azzâh) B & A (shape on map) C (shape on map)



30.) Givataim גִּבְעָתִים (gib<sup>c</sup>atayim) (hills+two) B & C (HILL-HILL)  
A (HILL-HILL-HILL)



31.) Golan גּוֹלָן (gôlân) B (MOUNTAINS) C (G+AREA) A (MOUNTAIN)



32.) Hadera חֲדֵרָה (ḥădērāh) A (VILLAGE) B & C (ELECTRICAL\_TOWER)





33.) Haifa חִיפָה (ḥēȳpāh) A B & C (VIEW)



34.) Harmon חֶרְמוֹן (harmōn) [high fortress] B & A (house of the KING)



A taps his hand on head several times

35.) Hebron **חֶבְרוֹן** (hebrôn) B (GRAVE-GRAVE)  
 C (Ch + Hebrew oral drill R)



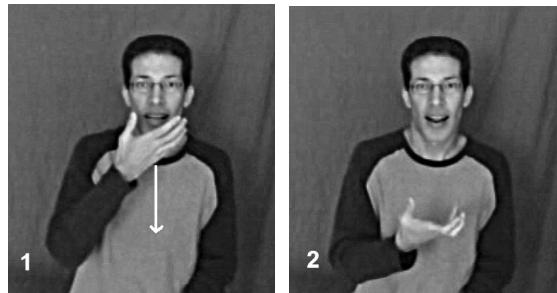
C's fingers wiggle on Hebrew oral drill R

36.) Hermon (Mountain) **חֵרֶםּוֹן** (hermôn) [sacred\_mountain]  
 B (house of the KING) A (MOUNTAIN+KING)  
 C (MOUNTAIN+SKIING)

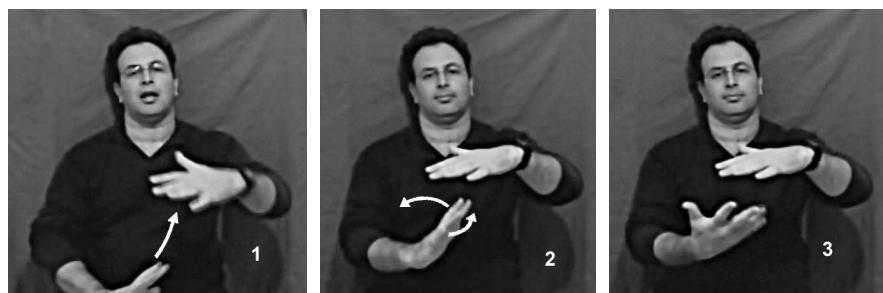


A's hand taps on head several times

37.) Herzliya הֵרֶצְלִיָּה (herṣəliyyāh) A B & C (BEARD of Herzl)



38.) Hinnom (Valley) גֵיא־הַנּוֹם (gēy<sup>2</sup>-hinnōm) [valley+Hinnom] B (FIRE)  
C (VALLEY + H-N-N-M)

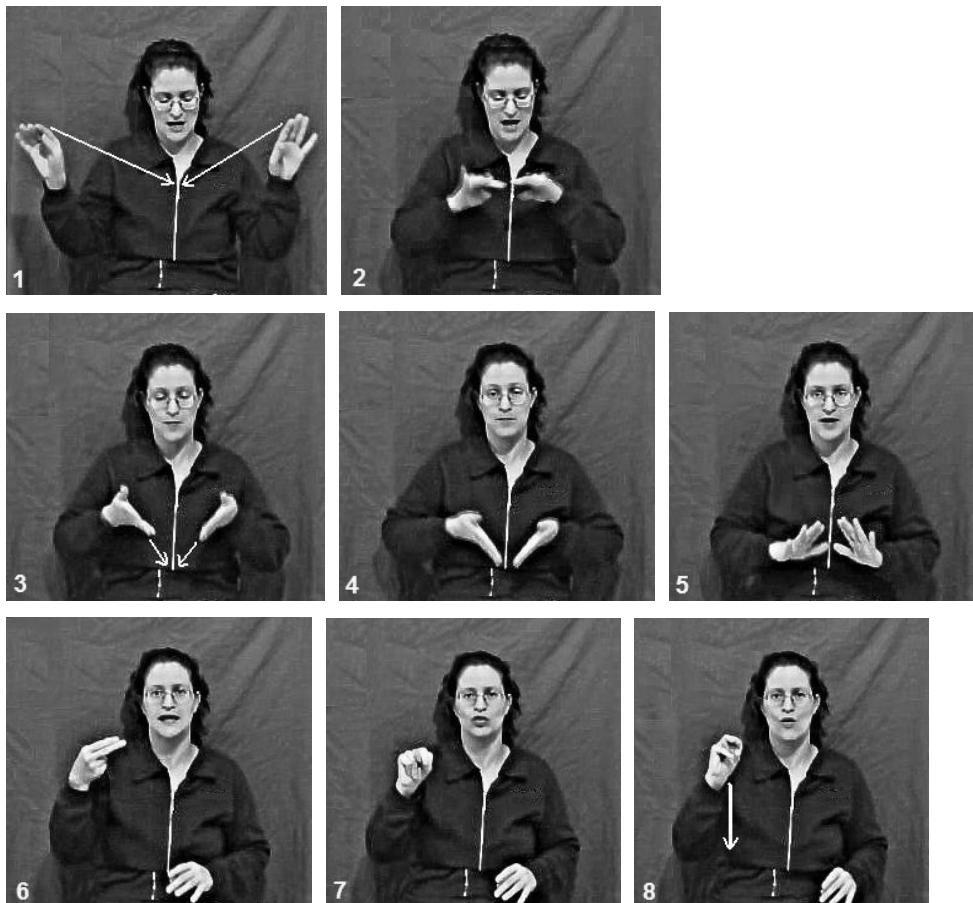


hand moves upward while rotating, reverses path downward

**גֵיא בֶן־חִנּוֹם**

(gēy<sup>3</sup> ben-hinnōm) [valley+son+Hinnom]

C (VALLEY + SON + H-N-M)



**חָלֹון**

B A & C (QUIET; name sign of Deaf boy born there)



41.) India הָדָד (hōddû) B C & A (BINDI; marking dot on forehead)



42.) Ir-Shemesh שְׁמֵשׁ עִיר (‘îr šemeš) [city+sun] B (CITY+SUN)  
C (CITY+SUN)



43.) Jagur יָגֻר (yāgûr) B & C (namesign of person from JERUSALEM)





or C (KIBBUTZ)



hands rotate in opposite directions and come back to center

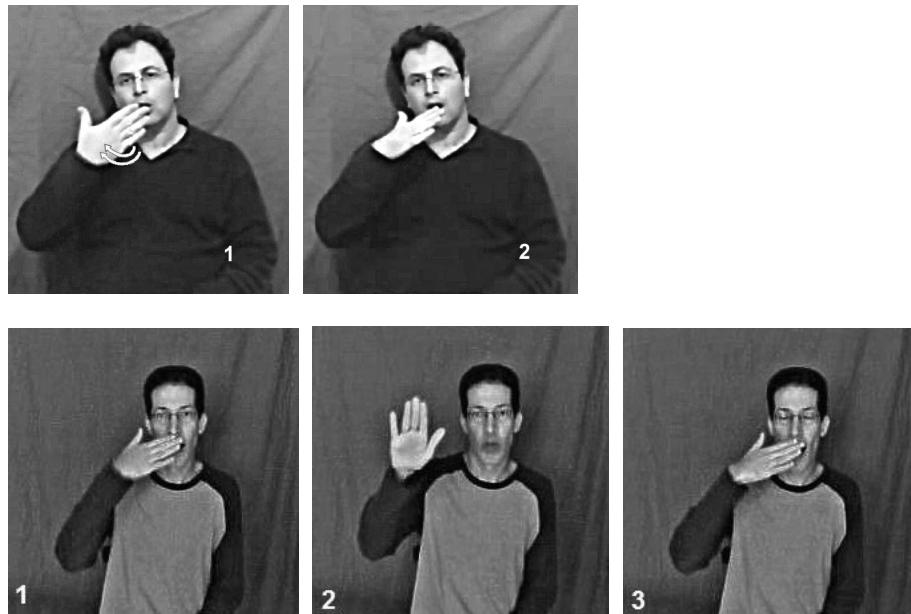
44.) Javneh יָבֵנֶה (yabnēh) B A & C (personal name sign; ENGLAND)



45.) Jericho יְרִיחֹה (yərîhô) B & C (GREEN)



46.) Jerusalem יְרוּשָׁלָם (yərûšələm) B & C (KISSING Western Wall)  
A (KISSING Western Wall)

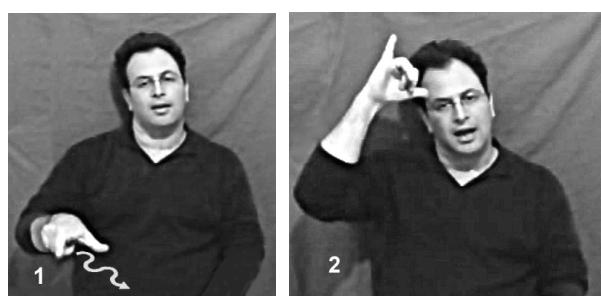


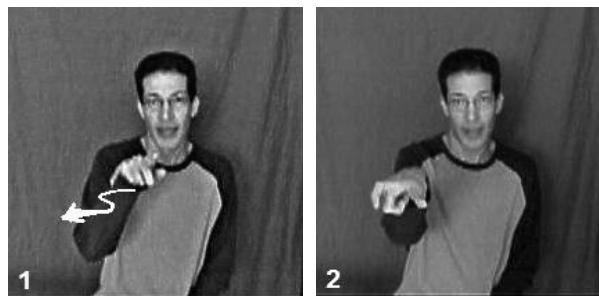
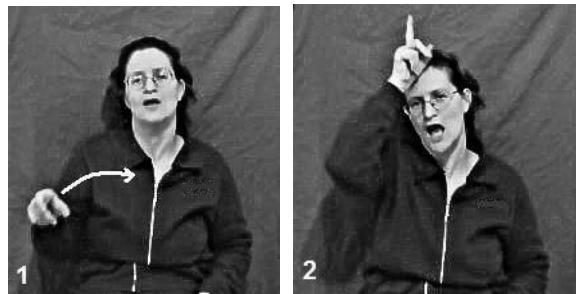
47.) Joppa יָפֹא (yāpô) B C & A (ARAB)



A holds the hand at the nose and does not repeat tap

48.) Jordan (River) יַרְדֵּן (yardēn) B & C (RIVER+JORDAN)  
A (RIVER+ASHKENAZ)





49.) Jotbathah יָטְבָתָה (yoṭbātāh) C (Y+AREA) A (Y-T-B-Th-H)



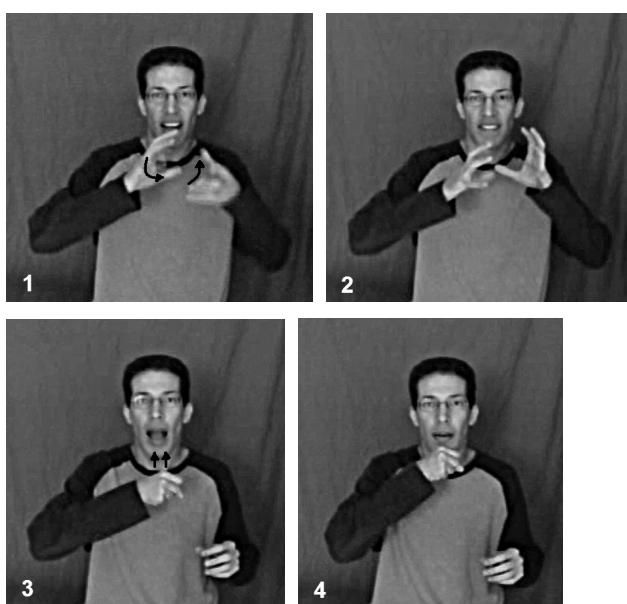
50.) Judah/Jehud יְהוּדָה (yəhûd) B C & A (INDIA)



51.) Kerioth קֶרַיּוֹת (qəriyyôt) B (initialized Q)  
C (Hebrew oral drill Q + AREA)



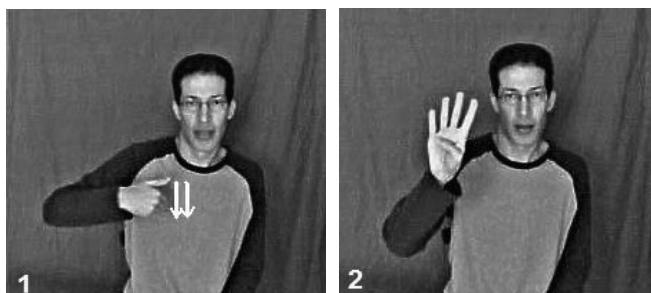
52.) Kfar Saba כְּפָר סָבָא (kəp̄ar sābā') [village+grandfather]  
A B & C (VILLAGE+GRANDFATHER)



B's GRANDFATHER is not repeated

53.) Kiriath-Arba קִרְיָת אַרְבָּע (qiryat 'arba<sup>6</sup>) [city+four]

B & C (Hebrew oral drill Q + FOUR) A (CUTTING off arm + FOUR)



54.) Kiriath-Baal קִרְיָת בָּעֵל (qiryat ba'el) [city + lord/master]

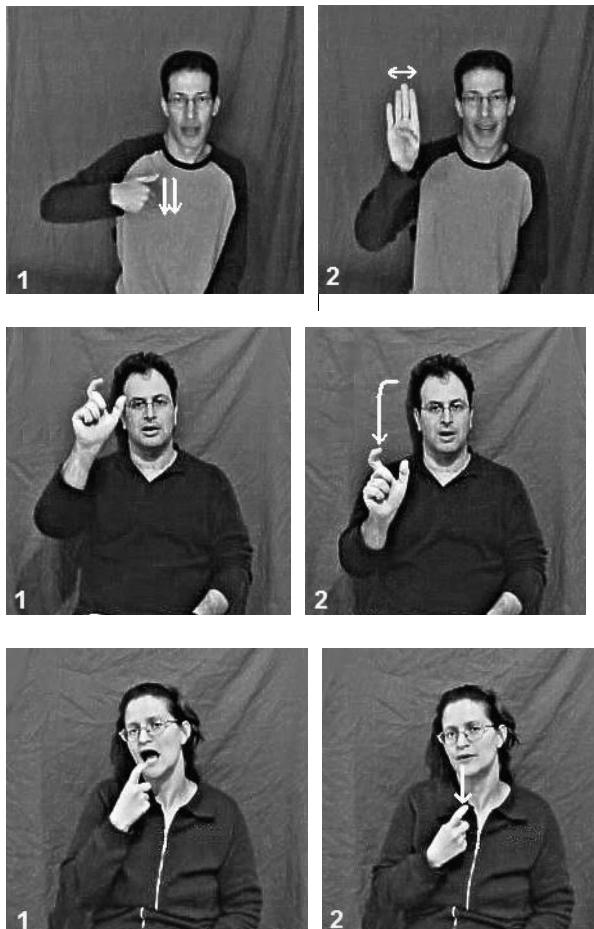
C (Hebrew oral drill Q + RULER)

A (CUTTING off arm + HUSBAND)



55.) Kiriath-Bialik קִרְיָת בִּיאַלִיק (qiryat bəya'lîq)

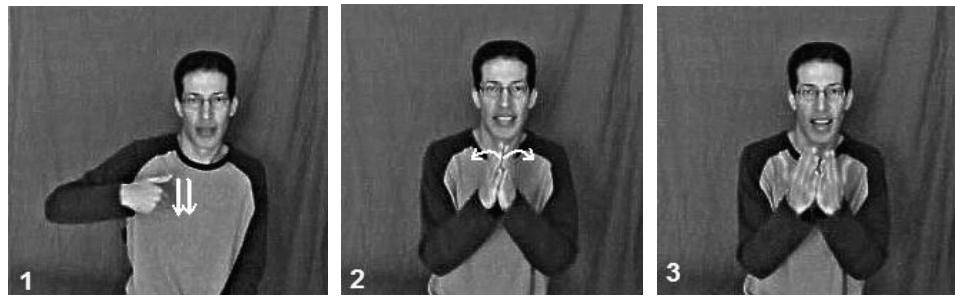
A (CUTTING off arm + initialized B) B (RIVER)  
 C (Hebrew oral drill Q)



56.) Kiriath-Sepher קִרְיָת סֵפֶר (qiryat sə'per) [city+book]

B & C (Hebrew oral drill Q + BOOK) A (CUTTING off arm + BOOK)

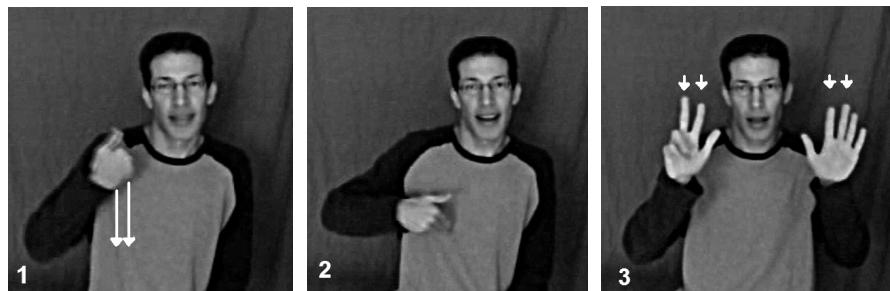




all signers repeat BOOK

57.) Kiryat Shmona קִרְיַת שְׁמוֹנָה (qiryat šəmōnāh) [city+eight]

A (CUTTING off arm + EIGHT) B & C (CUTTING off arm)



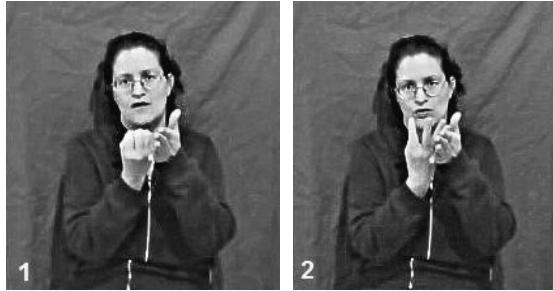
C's sign only moves downward once and stops

58.) Lebanon (Mountain) לְבָנָן (ləbānān) B (CEDAR)

A (MOUNTAIN+CEDAR) C (left hand FLAG; right hand CEDAR)

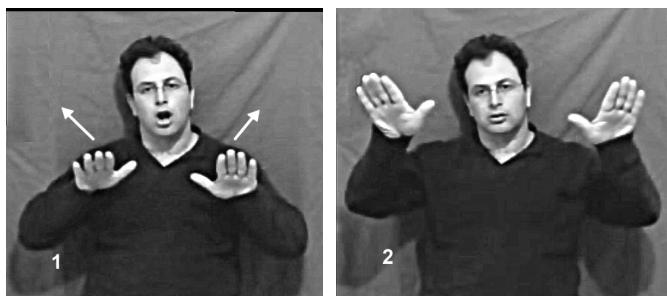


fingers wiggle while hands move downwards diagonally



fingers on dominant hand flick against the thumb & open; repeats

59.) Lod **לֹד** (lōd) B C & A (AIRPLANE)



A & C's signs move to the side not upwards nor forwards

60.) Metula **מְטוּלה** (mətullāh) B (ICE\_SKATING)

C (AREA + POINT upwards)

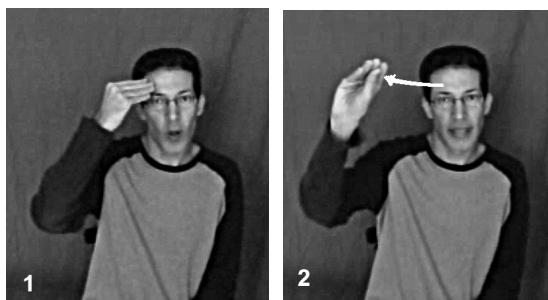


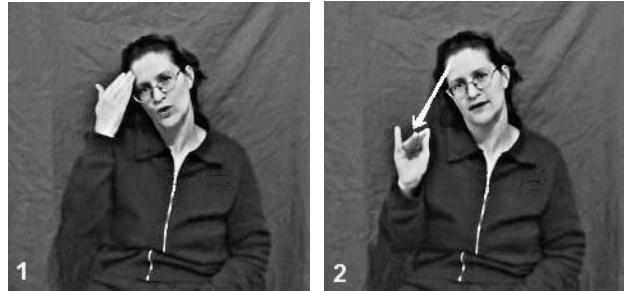
61.) Mevasseret Zion מַבְשָׁרַת צִיּוֹן (məbaśśeret siyyôn)

B & C (MOUNTAIN) A (?) + ZION)



62.) Modi'in מָדִיעַן (môdî'în) A & B (ANNOUNCE) C (ANNOUNCE)





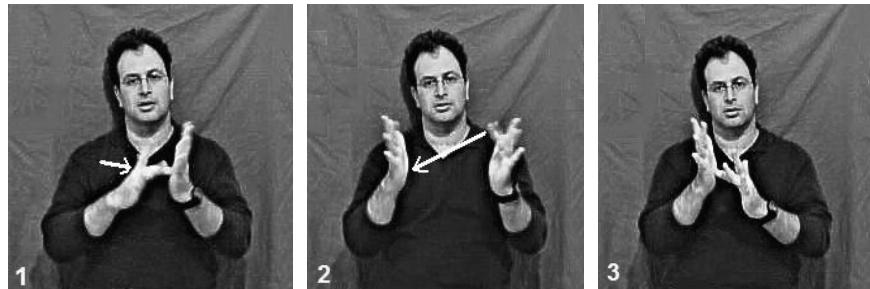
63.) Nahariya נַהֲרִיָּה (nahăriyyāh) [river+god] A & C (GERMANY)  
B (RIVER)



C's index fingers bend & straighten



64.) Nazareth נָצְרָת (nāṣrat) B C & A (JESUS, crucified)



C adds a third repetition of the middle finger touching the palm

65.) Nesher נֶשֶׁר (nešer) [eagle] C B & A (EAGLE)



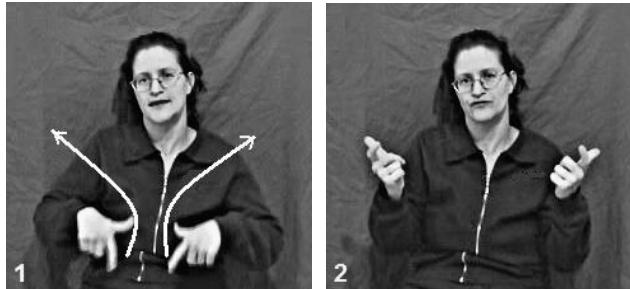
A leaves out first part which iconically refers to a bird's BEAK

66.) Netanya נְתַנְיָה (nətanyāh) B C & A (DIAMOND\_CUTTING factories)



non-dominant hand stays in place; dominant hand repeats

67.) Netivot נְתִיבוֹת (nət̫ibōt̫) C & B (WATER\_TOWER)



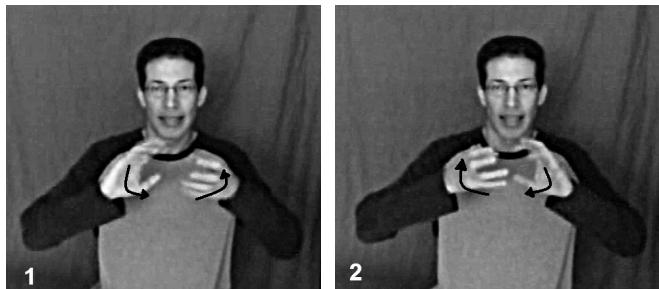
B's hands do not move upwards as wrists rotate

68.) Persia פָּרָס (pāras) B & A (?)



69.) Petah Tikva פֵּתַח תִּקְוָה (p̄etah̄ t̄iqwāh)

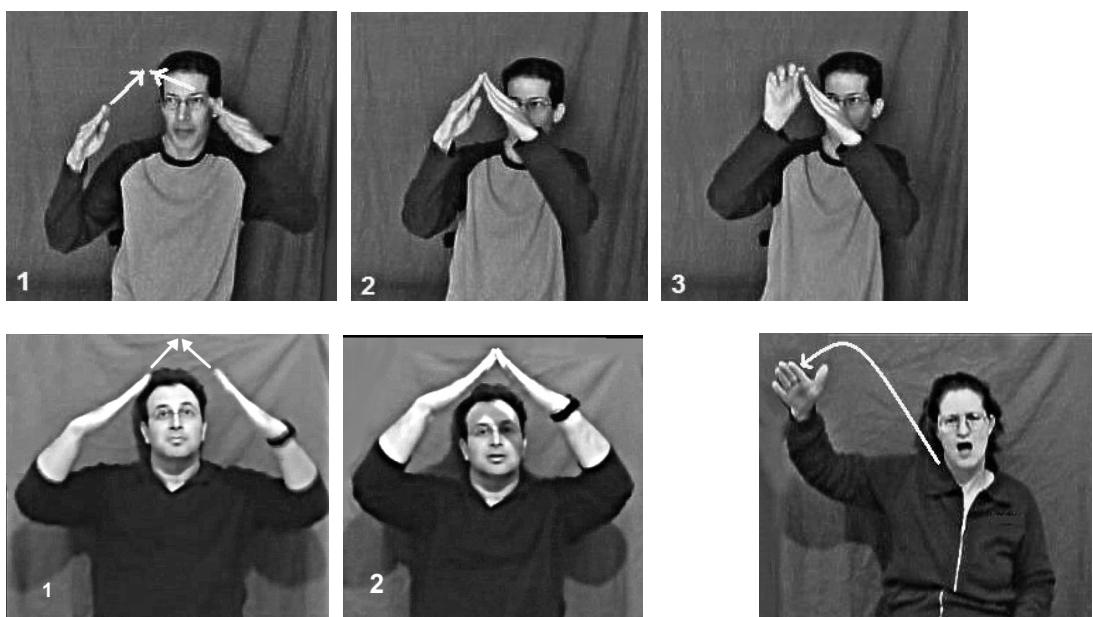
A B & C (orange JUICE factory)



70.) Pharpar (River) פָּרְפָּר (parpar) [butterfly] B (BUTTERFLY)  
C & A (RIVER+BUTTERFLY)



71.) Pisgah (Mountain) פִּסְגָּה (pisgāh) [mountain peak]  
A (MOUNTAIN+PEAK+POINT) B (PEAK) C (PEAK)



72.) Ra'anana רַעֲנָנָה (ra'ānānāh) A (initialized R) B & C (initialized R)

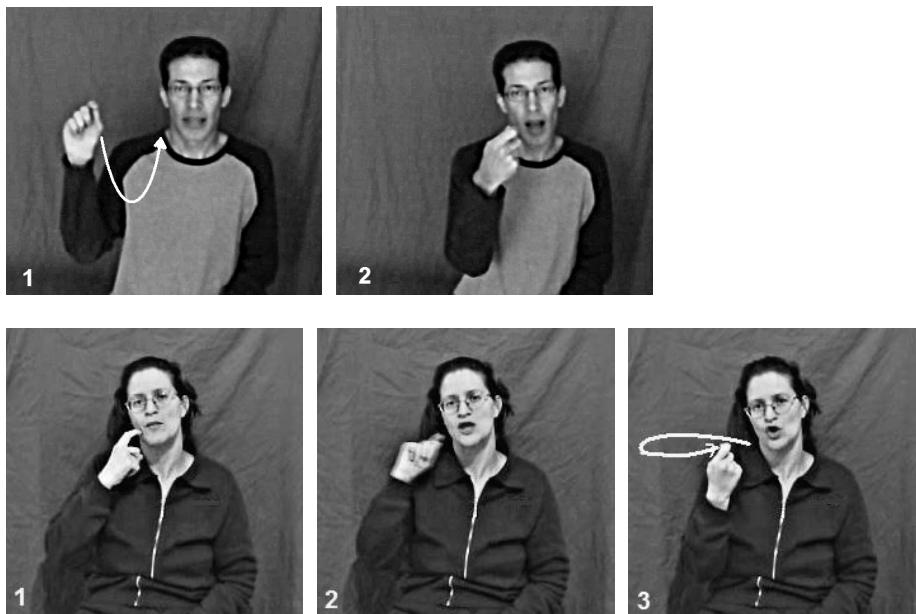


73.) Ramat Gan רָמַת גָּן (rāmat gan) B C & A (CANDY factory)

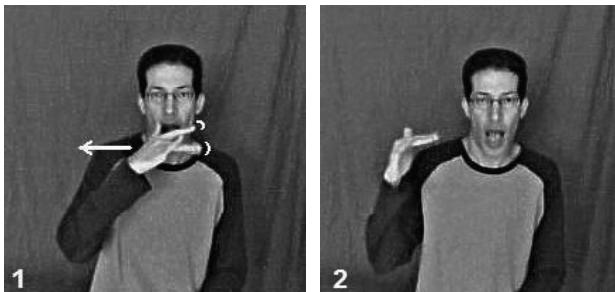


A's hand goes out to the side while wrist is rotating

74.) Ramat HaSharon רָמַת הַשְׁרוֹן (rāmat hāššārōn) A & B (TENNIS)  
C (CANDY+TENNIS)



75.) Ramla רָמְלָה (ramlāh) A B & C (Hebrew oral drill for rolled R)



A's fingers wiggle as his hand moves sideways



B's & C's fingers wiggle

76.) Rehovoth רְחֹבוֹת (rəhōbōt)

B C & A (small BEARD of Weizmann, first president of Israel)



A's thumb & index finger come together as hand moves downward

77.) Rishon Lezion **ראשון לשיין** (rišōn ləšiyyōn) A B & C (WINE)



C uses index finger instead of middle finger

78.) Salt (Valley) **מלח** (melah) [salt] B (SALT) C (SALT) A (VALLEY+SALT)



fingertips brush against thumb



on A's SALT, fingertips brush against thumb

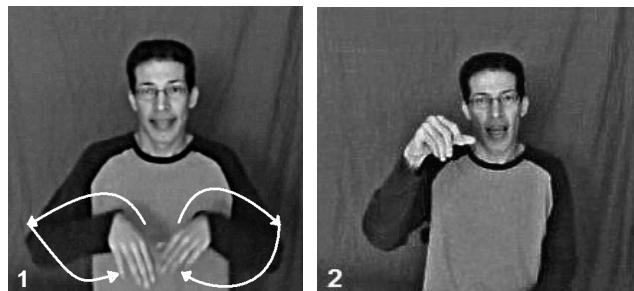
Salt (Sea)/Dead Sea ים המלח (yām hammelah) B C & A (SEA+SALT)



on SALT, fingertip of B's index finger brushes thumb repeatedly



on SALT, C's & A's fingertips brush against thumb



79.) Sderot שדרות (sədērōt) [avenues] C & B (AVENUES)



B's hands move straight forward

80.) Sepharad **סְפָרָד** (səpārad) [Spain] B C & A (SPAIN; bull-fighting)

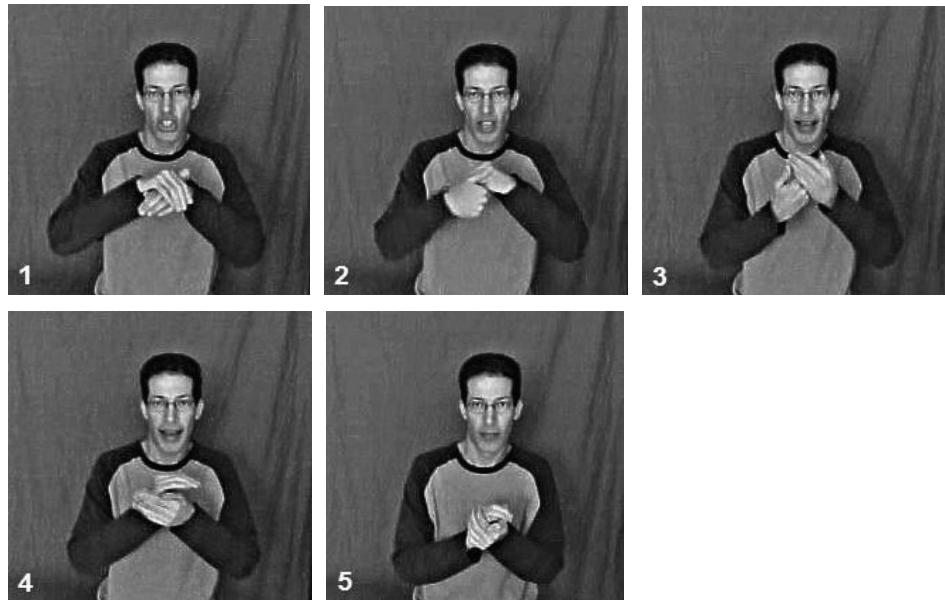


81.) Sharon **שָׁרוֹן** (šārōn) B & C (central AREA)



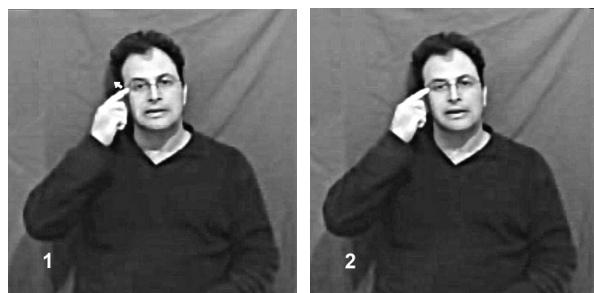
82.) Shechem **שֵׁכֶם** (šəkem) B (BREAD) C (Fingerspelled Sh) A (SOAP)





A's hands rotate around each other, as when washing one's hands

### 83.) Sin שין (sîn) B C & A (CHINA)

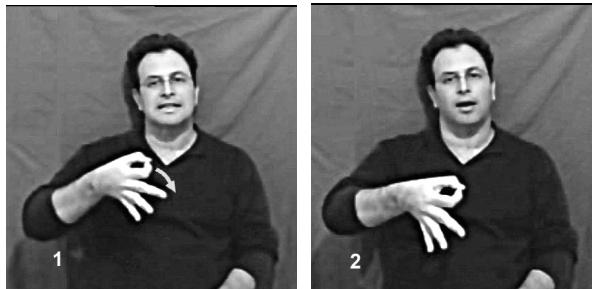


A's sign is two-handed

or B (CHINA)



84.) Sinai (Mountain & desert) סִינָי (sînay) B (PENINSULA)  
 A (MOUNTAIN + S-Y-N-Y) C (showing shape of peninsula)



85.) Succoth (Valley, town & location) סְכُוֹת (sukkôt) [festival SUCCOTH]  
 B C & A (SUCCOTH; hold palm branch)  
 A Succoth Valley (VALLEY+SUCCOTH)



86.) Tel Aviv תֵּל אַבִּיב (têl əbîb) B C & A (MASK wear for Purim)

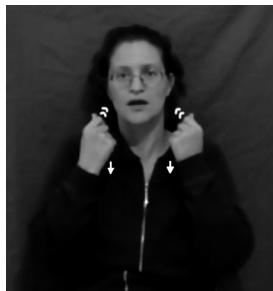


movement is repeated

87.) Teman טֵימָן (tēymān) B (Jewish LOCKS; curls)  
C & A (Jewish LOCKS; curls)



thumb & middle finger open & close at beginning & end of arrows



A's sign is one-handed

88.) Tiberias טְבִרִיָּה (tēbəryāh) B A & C (HOT)



C's wrist rotates quickly back & forth several times

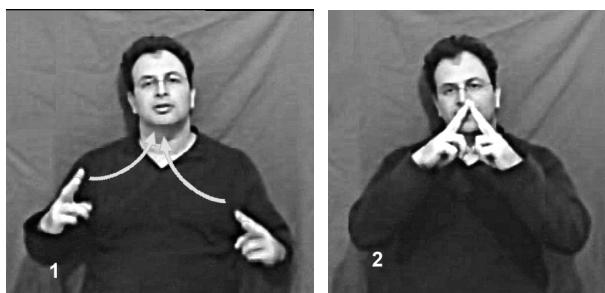
89.) Tirat HaCarmel טִירַת כְּרֶמֶל (tîrat karmel)

B (FIVE + FOUR; representing busline)

C (T+TWO+TWO; representing busline)



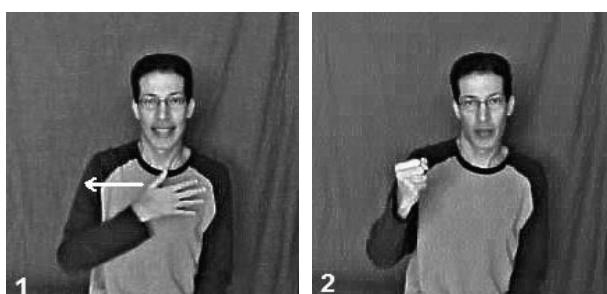
90.) Zarephath צָרֵפֶת (sârəp̄at) [France] B C & A (FRANCE; Eiffel tower)



91.) Zefat צְפָת (səp̄at) A & B (COLD) C (COLD)



92.) Zion (Mountain) זִיּוֹן (ṣiyyô̄n) B (SOCIALISM) C (initialized Tz)  
A (MOUNTAIN+?)



A's hand closes as it moves to the side

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