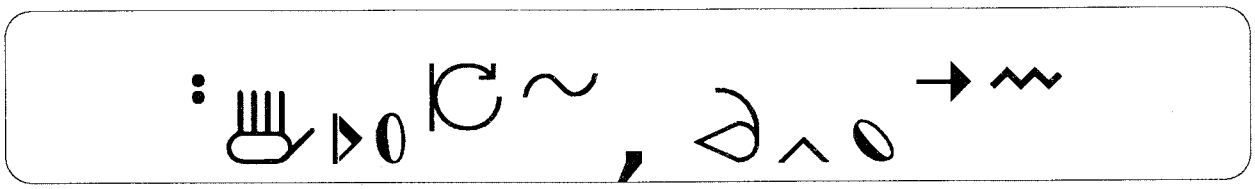

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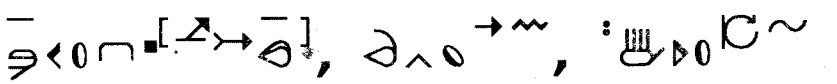
Version 2.0

Hamburg Notation System for Sign Languages



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APPENDIX: Poster of Handshape Table and Colored Keyboard Table

INTRODUCTION

The entire team of the Hamburg *Center for German Sign Language* has worked for several years on the development of the Hamburg Notation System (*HamNoSys*). Special contributions were made by *Regina Leven*, who reviewed and analyzed all new suggestions, *Thomas Hanke*, who adapted our computer program H.AN.D.S. to the *HamNoSys* as well as for keyboard use internationally, *Jan Henning*, who was responsible for the many reworkings of the bitmap and laser font, and *Heiko Zienert*, who produced all the drawings and graphics in this guide.

We are also grateful to our colleagues in and outside of Germany for their valuable comments during our workshop in Hamburg in April 1986, where we presented the first version of our notation system and computer sign lexicon. (In attendance were *Lloyd B. Anderson, Penny Boyes Braem, Filip Loncke, Nini Hoiting, Peter Kaufmann, Dominiek Moerman, Joachim Mugdan, Elena Pizzuto, Elena Radusky, Trude Schermer*). Special thanks go to *Dr. Penny Boyes Braem* for the English translation for the first edition, and to *Joanna Martin* and *Eva Richter* who carefully reworked and revised the translation for the second edition of the *HamNoSys* guide.

HamNoSys is a precise notational system which can serve to transcribe signs for sign language research. *HamNoSys* has been developed to be used with bitmap and laser font for the APPLE Macintosh computer. Like the phonetic alphabet for spoken languages, *HamNoSys* should be capable of describing all signs in all sign languages. Through a reduction of the 150 symbols (not including those for nonmanual signals), *HamNoSys* can also be adopted as a standard writing system for sign languages.

The *HamNoSys* follows the tradition of current sign language notation systems* while also permitting a more differentiated description with symbols which are as transparent as possible. Since the manual alphabet is neither sufficient, efficient, nor internationally standardized, we have purposefully avoided using it to represent handshapes. Therefore, in addition to developing *HamNoSys*, we have also created a new system to represent hand forms.

HamNoSys attempts to incorporate the following, often diverging aspects:

- a logically and anatomically consistent classification of hand forms
- an iconic relationship between symbols and their referents
- a capacity to finely differentiate signs within a cohesive framework
- an efficient system which is also computer compatible

---

* Compare S. Prillwitz: *Hamburger Notationssystem für Gebärdensprache - Entwicklung einer Gebärdenschrift mit Computeranwendung*. In: DAS ZEICHEN 6 (1989) 74-85

That *HamNoSys* has not yet reached perfection, will certainly be evident from the contents of this guide. We appreciate any critical feedback and comments the reader cares to offer.

Please send all correspondence to:

Zentrum für Deutsche Gebärdensprache
Rothenbaumchaussee 45
2000 HAMBURG 13
West Germany

The *Hamburg Center* is also developing a computer editing program for *HamNoSys* to facilitate the acquisition of the symbols as well as the order of transcription. This *HamNoSys*-EDITOR* enables even the novice to transcribe sign language on computer without any knowledge of the *HamNoSys* symbols. For this purpose, all possible handshapes, hand orientations, locations, and movements are presented on the screen in a visual sequence. The only thing users need to do is pick out the features of the sign to be notated by selecting the right handshape, hand orientation, location, and movement. The order of the choices is predetermined by the internal grammar of *HamNoSys*. With each choice the respective *HamNoSys* symbol will be displayed on the screen in the transcription line.When all the aspects of the sign have been described, this line will contain the full string of *HamNoSys* symbols representing the sign. The transcription can then be stored and used in any word and data processing program.

The following presentation of *HamNoSys* is concise and primarily intended as a guide for professionals. Sample texts transcribed into *HamNoSys* are given at the end of the guide.

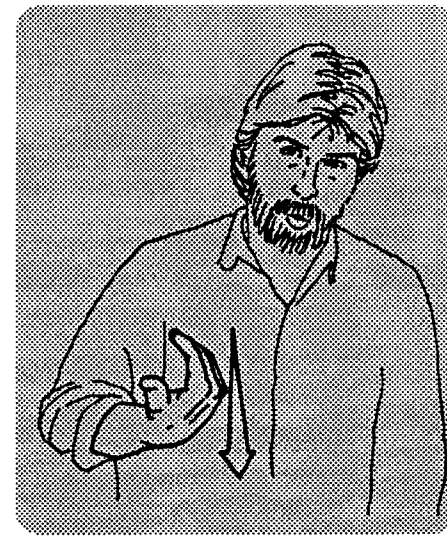
The following page introduces the basic framework of a transcription in *HamNoSys*.

---

* The *HamNoSys*-Editor as well as other productions by the Hamburg *Center* can be obtained from SIGNUM PRESS (Hans-Albers-Platz 2 / 2000 Hamburg 36 / West Germany).
The *HamNonSys*-Editor is available at the price of 50.- DM (incl. 14% V.A.T).

Example

Every sign is notated in the following order:



VERY TIRING

1. **Handshape:**

Flat hand with rounded fingers and extended thumb

2. **Hand Orientation:**

Large knuckles orientated left and upwards

Palm orientated right and upwards

3. **Location:**

right chest

4. **Movement:**

X body contact

↓ downward movement

( ) movements within round brackets occur simultaneously; in this case the hand maintains body contact as it moves downwards

– slow, continuous movement

5. **Non-Manual Signals (still in work)**

Forehead furrowed

Eyes squinted

Cheeks puffed

Lips pursed

Head bent forward

1. HANDSHAPES

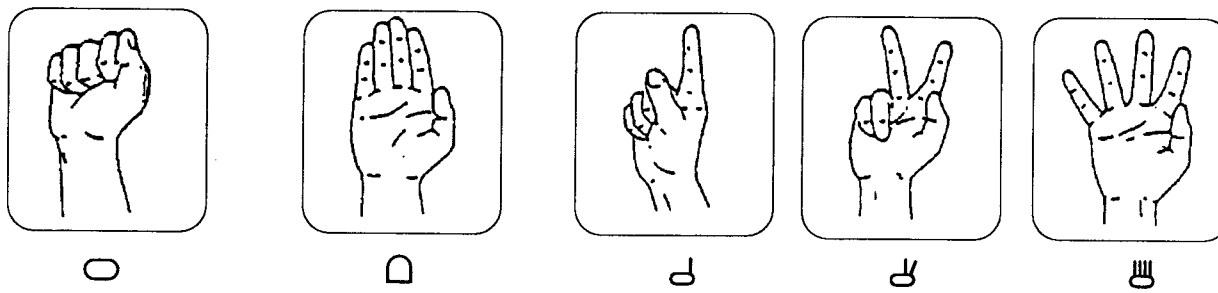
1.1. BASIC HAND FORMS

Handshapes are grouped into four basic form groups:

- **Fist**
- **Flat Hand**
- **Separated Fingers**
- **Thumb Combination**

The following symbols represent the four **fundamental forms:**

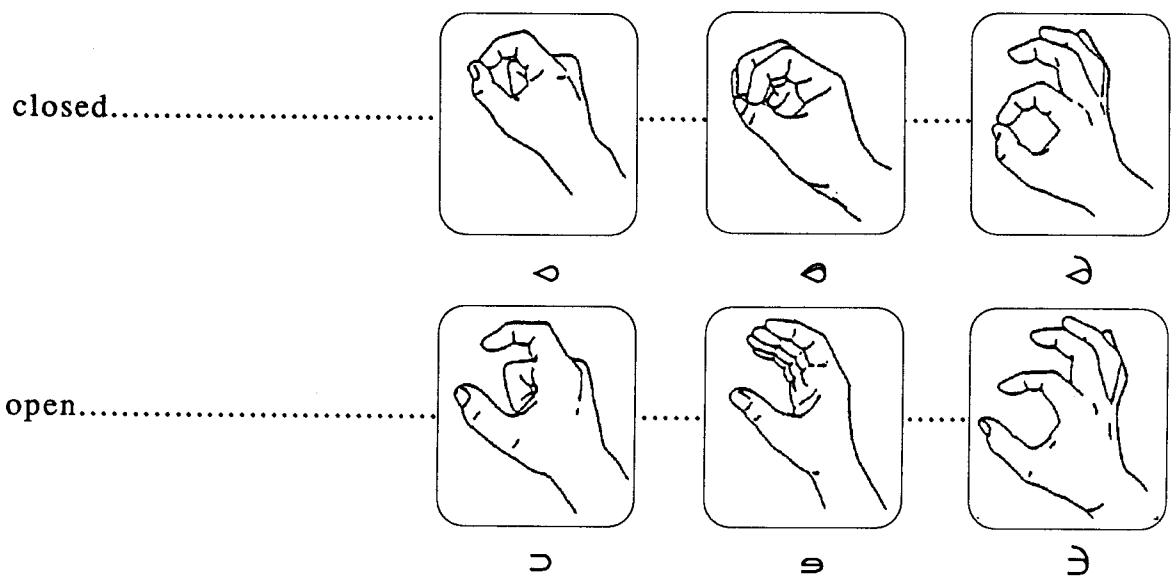
1. FIST **2. FLAT HAND** **3. SEPARATED FINGERS**



4. THUMB COMBINATION

Thumb Combination handshapes are derived from the Fist, Flat Hand, and Separated Fingers forms. Handshapes in the first three forms may also contain thumb variations, for example, *thumb across* or *thumb extended* (see next page); however, unlike these minor variations, the thumb configuration in Thumb Combination handshapes fundamentally alters the structural arrangement of the entire hand, thereby requiring a new group of hand forms. Notice the difference between the *closed* and *open* instances in the examples below.

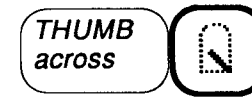
Derived from ..... FIST .....FLAT HAND.....SEPARATED F.



1.2. THUMB AND BENDING VARIATIONS

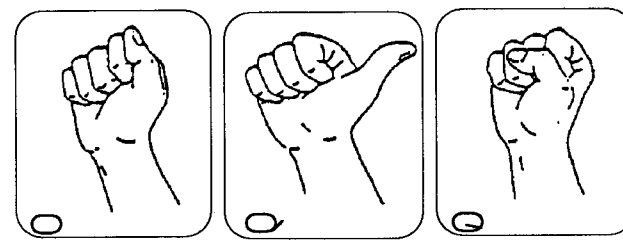
After the basic handshape form, descriptions of certain thumb and finger variations may need to follow in the sign transcription.

• THUMB VARIATIONS

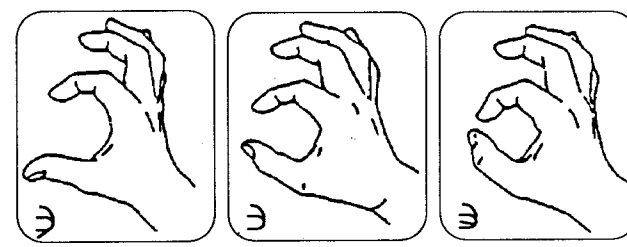


When the thumb is found in a natural, resting position, it is not explicitly notated. Thumb position is mentioned in transcriptions only when consciously engaged in another position.

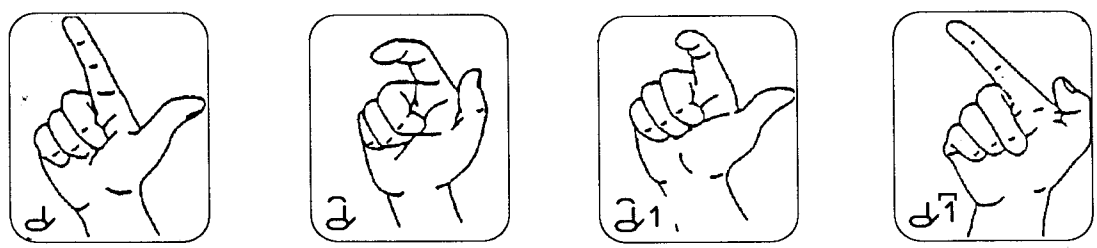
The diacritical symbol ◞ is used to represent the thumb. The ***thumb extended*** and ***thumb across*** variations of the fist hand form are illustrated in the diagrams below. The diagrams on the right show the Fist hand form with and without thumb variations.



For signs in the **Thumb Combination** form class, the thumb position indicates the size of the opening between the thumb and fingers. The addition of the *thumb extended* symbol represents a wider opening between thumb and finger, the *thumb across* symbol a narrower opening. A moderate opening is considered the normal form (without any thumb symbol).



For signs in the **Separate Fingers** form class with *thumb extended* and a bending symbol (e.g. *rounding* ◠, or *sharply bent* ⌐), if the bending symbol appears above the handshape symbol, the thumb is included in the bending. If the thumb is excluded from the bending, the number which references the thumb, i.e. 1, is placed after the handshape symbol. (Finger reference numbers discussed in next section.) Conversely, if *only* the thumb is bent, the bending symbol is made over the thumb number following the handshape symbol.

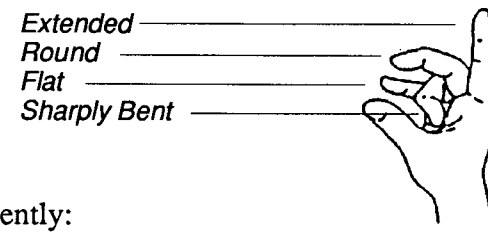


The thumb position symbols can be combined with all the following symbols.

BENDING OF THE DIGITS

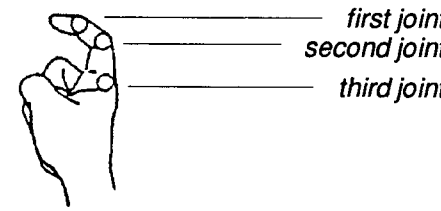
There are three kinds of bending of the digits. They and their diacritical symbols are given below.

- **Flat**
- **Round**
- **Sharply Bent**



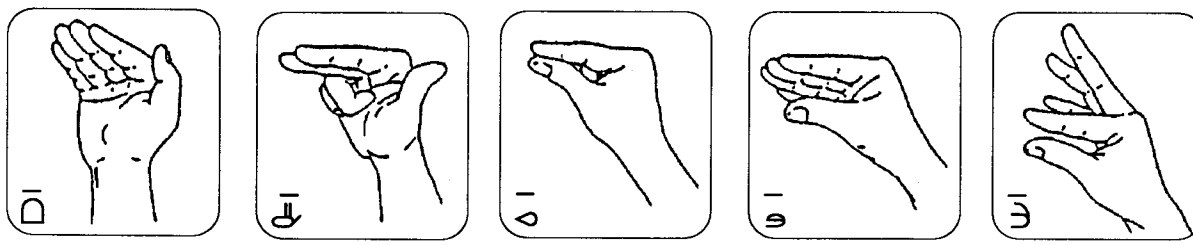
Each type of bending involves the finger joints differently:

- **first joint**
- **second joint**
- **third joint**



• FLATTENING

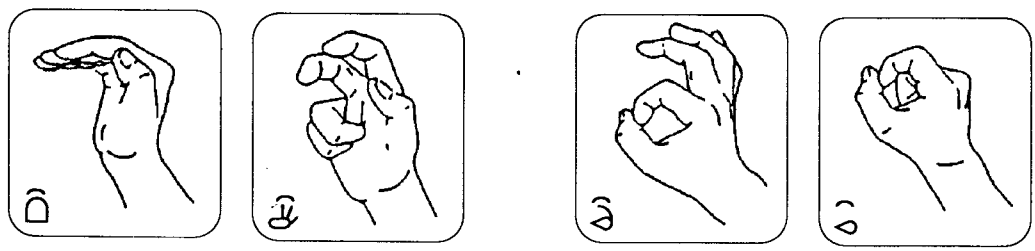
When flattening occurs, the finger is nearly at a right angle to the palm. The angle is formed at the third joint, the finger itself is straight.



• ROUNDING

In contrast to flattening, rounding involves all three finger joints, especially, the second joint. Rounding variations from different hand form groups are given in the diagrams.

When rounding is found in closed Thumb Combination forms, the bending of the fingers is such that the thumbtip pad covers the fingernail.



- **SHARP BENDING**

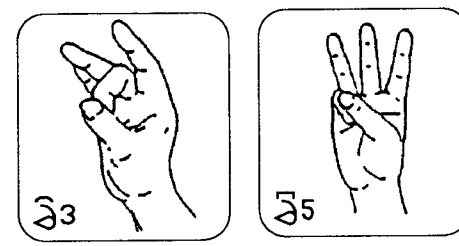
In handshapes with sharp bending, the first and second joint almost form 90° angles, whereas the third joint is unaffected. In closed Thumb Combination handshapes, the finger is bent to such an extreme that the thumbtip pad covers the first joint of the finger.

1.3. MORE FINGER SYMBOLS

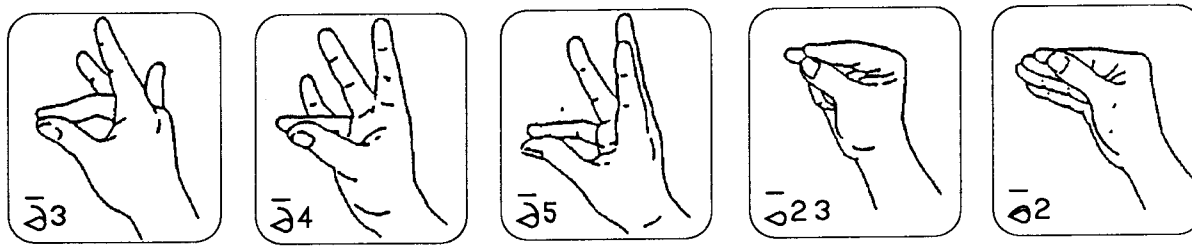
In order to give an exact description of a number of complicated handshapes, we need symbols to represent individual fingers and finger parts. These symbols can be used in both the Handshape and Hand Location sections of a sign transcription. (See Hand Location in section 3.) If finger numbers are used in the Handshape description, they immediately follow the handshape symbol. **Individual digits** are referenced with the numbers 1 to 5 :

1	THUMB
2	INDEX FINGER
3	MIDDLE FINGER
4	RING FINGER
5	LITTLE FINGER

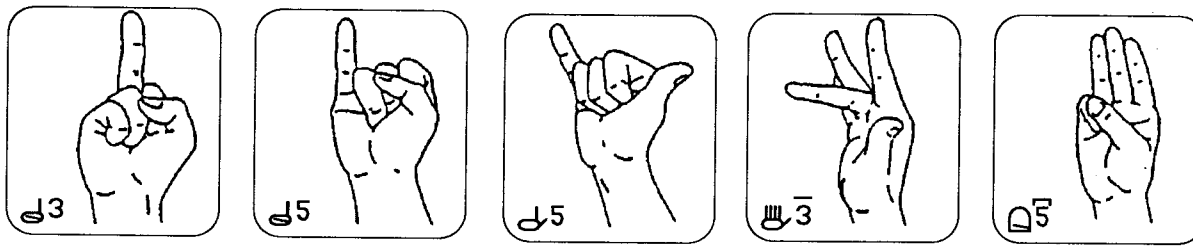
For signs which refer to specific fingers and also contain bending symbols, when the bending sign appears above the handshape symbol, the finger numbers which follow the handshape refer to those fingers which are *not* bent. Conversely, when the bending symbol appears above the reference numbers, *only* the referenced fingers are bent. (See Thumb Combination p.10)



The identification of specific fingers is often necessary in Thumb Combination forms. Using finger numbers, a closed Thumb Combination in which the thumb simultaneously contacts more than one finger is easily notated.

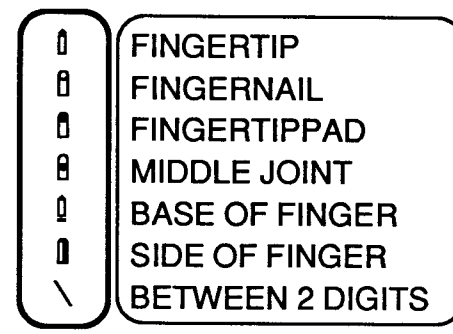


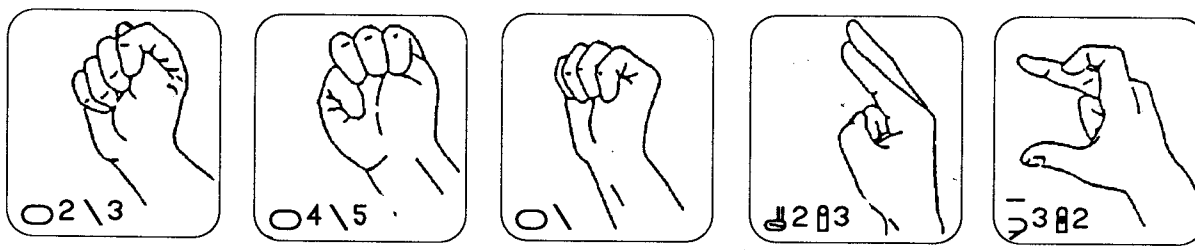
Finger numbers are only used when the handshape symbols might otherwise be ambiguous. In cases where only one finger (excluding thumb) appears in the hand form, no finger number is given if the index finger is implied.



Finger Parts

The identification of finger parts is necessary for a few uncommon handshapes where the exact point of contact between two fingers must be notated. The following symbols represent the various finger locations. When finger part references are given in the transcription, the number preceding the symbol indicates to which finger the specific location refers, the succeeding one which other finger is involved.



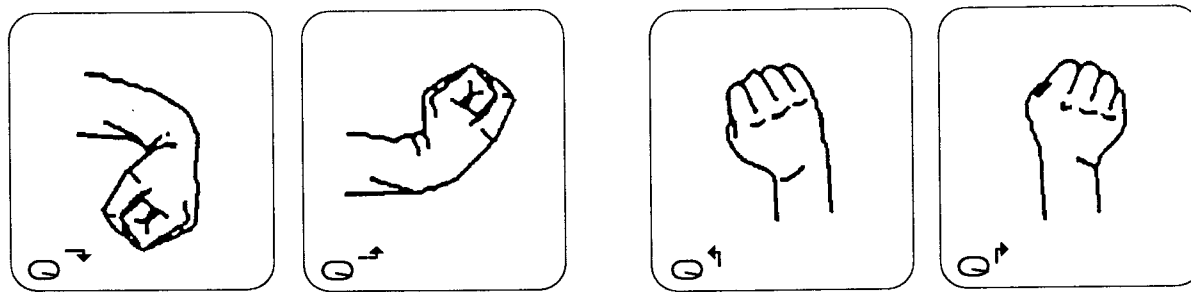


2. HAND ORIENTATION

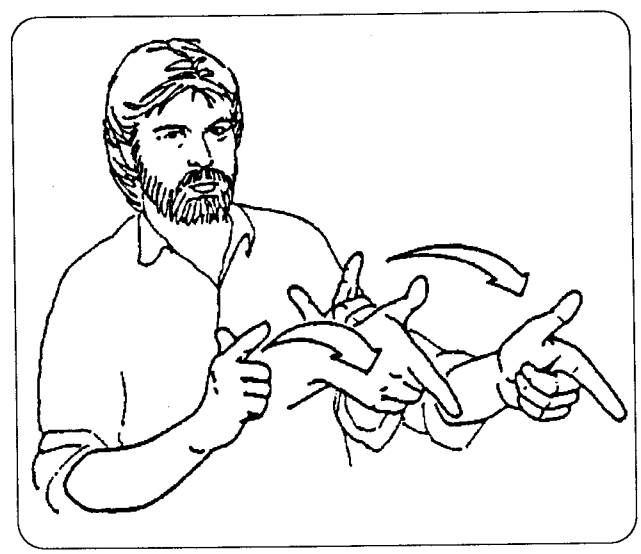
The exact orientation of the hand is conveyed by the **Wrist, Extended Finger**, and **Palm Orientations.** In a sign transcription, if the wrist is bent, the Wrist Orientation must be explicitly described and its transcription immediately appear after the handshape.

2.1. Wrist Orientation

If the wrist is bent towards the pulse, towards the back of the arm, towards the thumb, or towards the little finger, its configuration must be explicitly noted. The notational symbols are given in the diagrams below.



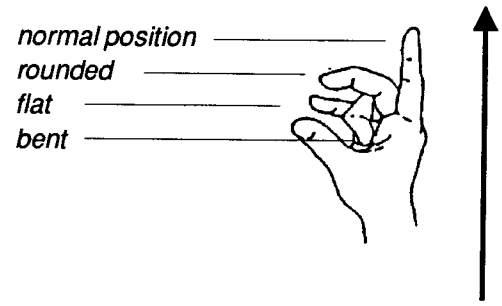
Wrist orientation is omitted when the bending of the wrist is a natural consequence of the combination of palm and knuckle orientation with movement. For example,



DRIVE-TO =

2.2. Extended Finger Orientation

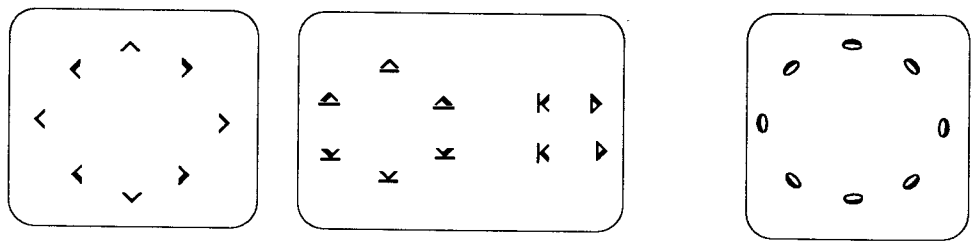
The extended finger orientation corresponds to the direction of the vector originating at the wrist, running along the length of the back of the hand, and continuing in the direction pointed to by the fingers when fully extended. Determining the extended finger orientation may be difficult for those signs in which all fingers are bent in some way. In such cases, the extended finger orientation is the direction of the fingers if they were forced to fully extend.



Extended finger orientation

Extended Finger Symbols ***Palm Symbols***

Parallel to Body *With Body Referent*



The extended finger orientation is represented by a caret ›. The caret points in the direction of the extended fingers. The caret is rotated to show 90° changes. 45° turns (diagonals) are given by thickening the appropriate half of the caret. For example, regardless of the palm orientation, when the extended fingers point *directly upwards* it is represented by ^ , *directly to the right* by › , *up and to the right* (diagonal) by ❯ . As always, the directions *left* and *right* are understood from the perspective of the signer.

If the extended finger orientation is not parallel to the body, that is, if the line containing the extended finger vector intersects the plane containing the body, the description must contain the body referent symbol (_). The caret symbol in conjunction with the body symbol shows the extended finger orientation in relation to body position. For example, ▵ shows the extended fingers pointing *directly away from body*, ◭ *away from body and to the right*, › *to the right* (no body reference). If the extended finger orientation is sloped at a 45° angle from or toward the body, the body reference symbol is used and represents a profile view of the body, e.g., when extended finger orientation is *upward and toward body* ᛕ , *downward and away from body* ⊳. Otherwise, body reference corresponds to a birds-eye view of the signer, e.g., *directly toward the body* ⩙.

To notate a double diagonal, for example, the direction *away from the body, to the left, and upwards*, the symbols for the two diagonals *away from the body and to the left* ⏏ and *upward and away from body* ▸ are to be combined as follows: ⌂⏏▸⊖.

2.3 Palm Orientation

Palm Orientation is always described after Wrist and Extended Finger Orientations.

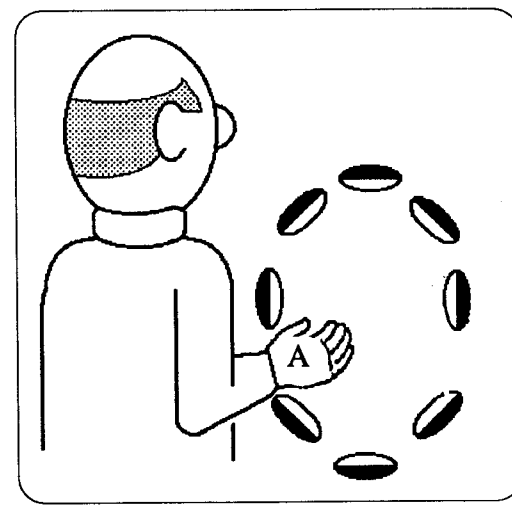
As shown in the diagram, palm orientation is represented by an oval; the palm is indicated by the darkened side of the oval.

Determining the palm orientation is a two-part process; first one must find and move the hand to the appropriate Basic Position, then choose the symbol which best describes the palm orientation. The Basic Position of a sign is easily derived from its Extended Finger Orientation.

Basic Position A

(⏏ Extended Finger Orientation away from body)

This is the most common Basic Position. All signs for which the extended finger symbol has no body referent have the Basic Position A (e.g. ^ > > < <). Also signs which point away from the body, directly or diagonally, have the Basic Position A (e.g. ⏏ ▸).



Basic position A for palm orientation

Basic Position B

(⌄ Extended Finger Orientation towards body)

Any sign whose extended finger orientations point directly or diagonally toward the body have Basic Position B. This includes all signs containing one of the following extended finger orientation symbols: ⌄ ⌄ ⌄ K K .

Choosing Palm Orientation Symbol

Now that the Basic Position has been determined, the signer needs to move the hand to that orientation either by straightening the arm (Positition A) or bending the arm (Position B). Only the elbow joint is involved in the movement. CAUTION: DO NOT ROTATE FOREARM AROUND ITS OWN AXIS ! Wrist bending is irrelevant since it does not affect palm orientation. (Wrist bending discussed in section 4.5.) Once the hand is in its Basic Position the signer need only choose among the 8 palm orientation symbols for the symbol which best describes the palm orientation. As usual, the orientation is determined from the signer´s perspective.

3. LOCATION

3.1. Body Parts

Almost all the location symbols refer to locations on the body. Altogether, there are 41 symbols, 17 of which refer to parts of the hand and finger. Six symbols refer to the three dimensions of the signing space. The following diagram should make clear the meaning of the symbols and their relationships:

Symbols for Body Parts

Hand location must only be notated when a very specific location on the body or in the signing space is involved. Otherwise, it is understood that the sign is located in neutral space, in front of the upper part of the body.

In **two-handed signs,** location information concerning the arm and hands usually refers to locations on the non-dominant hand and characterizes the relation between the two hands. (See section 5 on two-handed signs)

To indicate locations which are not in the middle of the body, a small square is placed to the left or right of the body part symbol. Reminder: all determinations of *left* and *right* are made from the signer's perspective.

left side of forehead			*right side of forehead*
left eyebrow			*right eyebrow*
left eye			*right eye*
left alongside of nose			*right alongside of nose*
left shoulder			*right shoulder*
left side of chest			*right side of chest*
left hip			*right hip*
left thigh			*right thigh*

The space beside the body is indicated by an unfilled square. For example,

= above and right of the head
= to the right of the shoulder
= to the left of the chest
= to the left of the hip

3.2. Related Symbols

The following symbols may accompany body part symbols. They describe the location of the hand in relation to the body part.

1. in back of
2. beside
3. contact
4. close to
5. normal unmarked distance from body (no notation)
6. outstretched arm

The signing space is divided into the following six horizontal areas:

1. Space behind the body:
   = *back of neck*
   = *back*

2. Space beside the body:
   = *beside right shoulder*
   = *beside left hip*

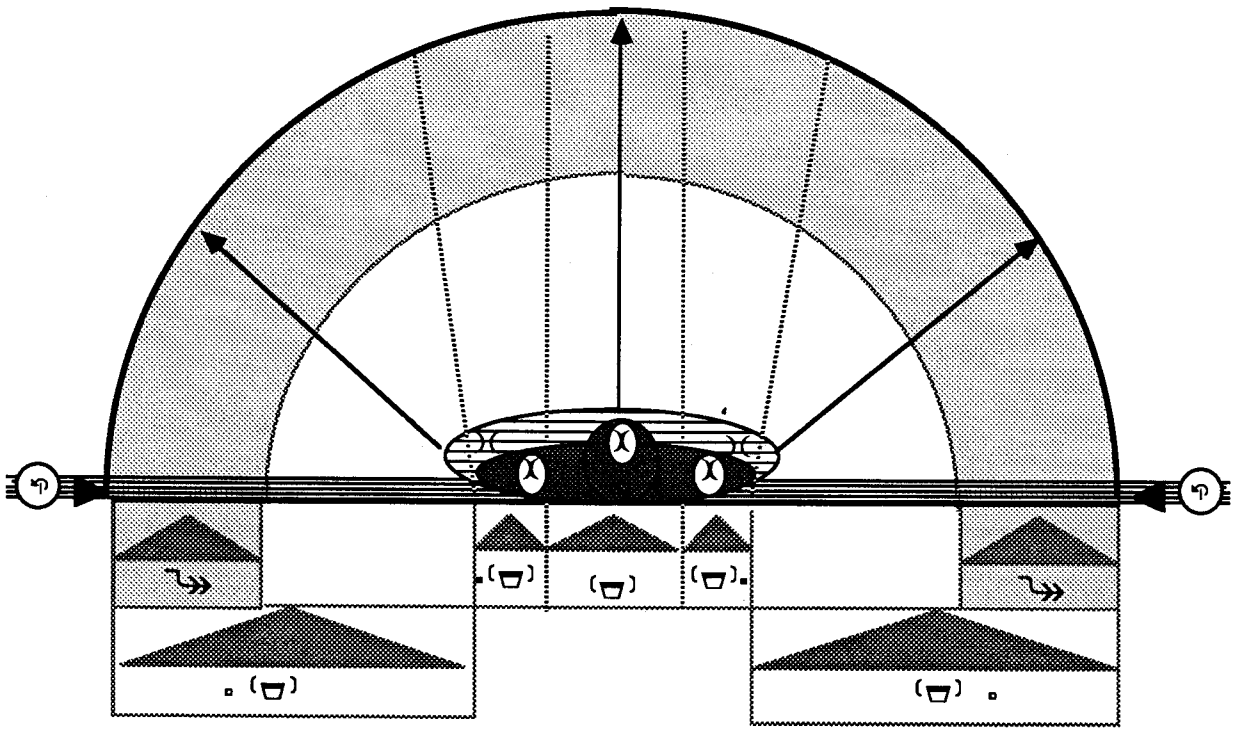
3. Contact with the body:
   = *contact with the middle of the chest*
   = *contact with the right side of the nose*

4. Space close to the body:
   = *near stomach*
   = *near right side of chest*

5. Space in front of the body:
   = *neutral space* (no notation)
   = *in front of the head*
   = *in front of the stomach*
   = *in front of right shoulder*

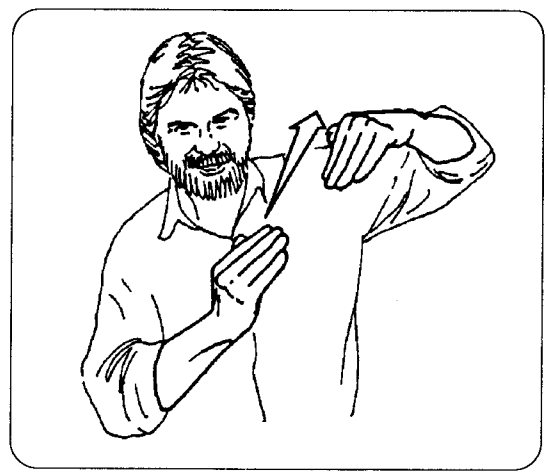
6. Distant from the body:
   outstretched arm at *shoulder height*
   = *to the right, sidewards*
   = *to the front, left*
   = *to the front*

The division of the signing space is, like the other locations, orientated in respect to the body of the signer. The 6 different areas of the horizontal signing space are shown in the diagram below:



Horizontal Division of the Signing Space

The symbols for *contact* and for *close to* as well as the symbols for *interlocking* and *crossing* are also used to describe the relationship of the hands in two-handed signs. For example in DRIVING-car-uphill = , the dominant hand moves from below to the back of the non-dominant, resting hand.



DRIVING-car-uphill

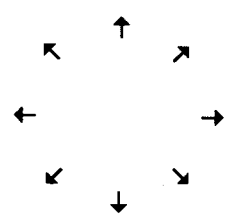
4. MOVEMENT

4.1. MOVEMENT TYPES

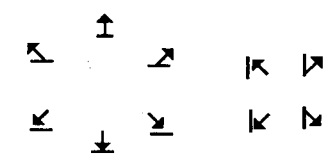
We distinguish the following kinds of movement: straight, curved, wavy, zigzag, circular, and spiral.

- **Straight movements** are notated with arrows. Here, as for the symbols for hand orientation, changes of 45° are notated.

Parallel to Body



With Body Referent



- **Curved movements** are notated with the four symbols ⊂ ⌒ ⌣ ⊃, which give the direction of movement of the arc:

	⊂	⊃	⌒	⌣
For movements: ↗→↘↖←↙	*towards body*	*away from body*	*upwards*	*downwards*
For all reference to body movements: ⇙⇓⇘⇖⇙ ⇖⇑⇗⇘⇗	*to the left*	*to the right*	*upwards*	*downwards*
For upward and downward movements: ↑ ↓	*to the left*	*to the right*	*away from body*	*towards body*

There are also symbols for **wavy lines** ~~ and **zigzag lines** ~~. Like the curved movement symbols, these are also placed after the symbols indicating the direction of movement, for example, ↑~~ = *an up- and downward wavy line movement away from body*. A horizontal line above the symbol indicates the wavy ~~ or zigzag ~~ movement is to be carried out horizontally (to the left and right). If no horizontal line is given, the *wave* or *zigzag* is made vertically (upward and downward).

- For **circular movements**, a distinction is made between *clockwise* ↻, and *counterclockwise* movements ↺ as well as whether the movement is parallel to the body ↻ ↺, or with body reference ↻ ↺ ↻ ↺.

- **Spiral movements** are notated with a combination of the symbols for *direction* and *circling*. As both factors occur simultaneously, they are put in square brackets. For example, [↑↻] represents a *clockwise horizontal spiral movement moving upwards.*

If the arc of the spiral narrows in the course of the movement, the symbol > is added. If it widens, the symbol < is added (e.g. [↻<] or [↑↻<]).

4.2. MANNER OF MOVEMENT

The manner of the movement is differentiated according to size, speed, intensity, and manner of onset and offset. There are **three degrees of size**, but only the two extreme forms are explicitly notated. A filled dot indicates the larger movement; an unfilled dot indicates the smaller movement. For example,

→•	large, expansive movement (towards the right)
→	normal size movement (towards the right)
→∘	small movement (towards the right)

These two subscripts can be used to show size variations for any movement type. Some examples are given below.

↓•⌒	large downward movement with forward arc (e.g. STOMACH)
↓⌒	normal downward movement with forward arc (e.g. BREAST)
~•~	large vertical wavy-lined movement (e.g. MOUNTAIN)
~∘~	small vertical zigzag movement (e.g. POSTAGE-STAMP)
~∘~	small horizontal wavy line (e.g. FISH-SWIMMING)

After describing the direction of movement, its type and size, the movement´s **speed** and **intensity** must be indicated. The following symbols are used:

*	fast movement
–	slow movement
×	tense
⁊	hold or rest (mostly at onset or offset of a movement)
‖	abrupt halt at the end of the movement

4.3. REPETITIONS

The number of repetitions of a movement is always written after the notations of the qualitative aspects of the movement. We distinguish between repetitions which lead back to the beginning of the movement (+ ++), and repetitious movements whose initial positions continuously change (↦ ++↦). When hands are returned to initial location before commencement of each repetition, the symbol + or ++ is used. If the starting point of the repetitions continuously changes, the symbol ↦ or ++↦ is required.

The exact number of repetitions is indicated through the corresponding number of simple repetition symbols:

+ repeating the movement from the starting point (one + for each repetition)
↦ repeating the movement with changing starting point (one ↦ for each repetition)

Multiple repetitions which appear an unspecified number of times are notated with the following symbols:

++ for multiple repetitions of a movement from the starting point
++↦ for multiple repetitions in which starting point continuous changes

4.4. ORDER OF MOVEMENT NOTATION SYMBOLS

If a sign involves **several successive movements**, these are indicated in their order of occurrence. For example, ↓⊥ᑕ = *a straight downwards movement followed by a curved movement to the left of the body, ending in a contact.* Exact specifications of the size, manner, and repetition of each movement are notated after the symbol of the corresponding movement.

The general order of movement notation symbols therefore is as follows:

(1) **Circling movement** or **directed movement**
(if necessary, with subscript indicating size)

(2) **Type of movement**: curved,wavy, zigzag
(if necessary, with subscript indicating size)

(3) **Manner**: speed, intensity, holds
(if necessary, with subscript for degree)

(4) **Repetition**: exact number, several, several continuous

Simultaneously occurring movements must be enclosed in square brackets. For example, [↻↥] = *Circling movement with forwards movement,* or [→↣∃] = *Movement to the right plus simultaneous change of handshape.*

Movement with continuous body contact is enclosed in round brackets. For example, (X↓) represents a *downward movement with body contact.* (See Example, p. 8).

For most **contact movements**, we can do without the arrows indicating the movement that brings about the contact. The contact sign X in connection with the location is sufficient, e.g. I=☝0 X.

The other case where **round brackets** are used is when the entire movement sequence is repeated. For example, (↻↓)+ = *Circling movement followed by a straight downwards movement, the whole sequence being repeated once*, or when only one joint is involved with the production of a given movement (see next section).

4.5. MOVEMENTS AT ONLY ONE JOINT

Besides the "normal" movements in which the upper and lower arm and wrist are equally involved, we can also describe **movements at only one joint.** In this case, a symbol for the joint is added to the circling or movement direction symbol. Both symbols must be enclosed in round brackets:

(1) (⊽↑) **Shoulder shrug** (lifting of the shoulders)

(2) (┐↑) **Upper arm** movement (upwards) made only at the shoulder joint (flapping wings)

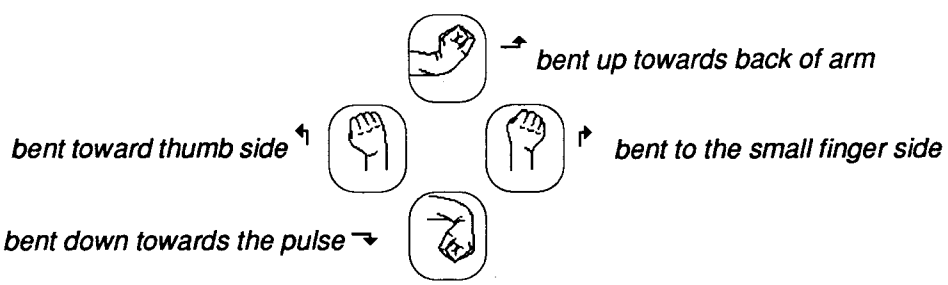
(3) (└→) **Lower arm** movement (to the right) made only **at the elbow joint** (windshield wiper movement)

(4) The movement resulting from the **rotation of the lower arm** at the elbow joint (as in a closing movement) is indicated by noting the new hand orientation. For example,

○▵⊂→⊂ Closing movement to the right over 90°

○▵⊂→0 Closing movement to the left over 45°

(5) The **movement at the wrist** is indicated with the Wrist Orientation symbols (see p.14). Transcriptions will require two wrist bending symbols, if two kinds of bending occur simultaneously (e.g. wrist is bent toward thumb and puls).



Note that the unbent wrist position is considered normal and is not notated; only deviations from the normal position are explicitly notated.

Repeated bending movements of the wrist are indicated by the repetition symbols. When the wrist is brought back to original unbent position before commencing each repetition, the symbols + and ++ are used:

Repeated movements towards pulse:		or	
Repeated movements towards back of arm:		or	
Repeated bending towards small finger side:		or	
Repeated bending towards thumb side:		or	

If the wrist movement moves beyond the normal, middle position through the wrist's entire arc of wrist movement possibilities, the symbols for repetition with changing starting point or follow the wrist symbols   .

The opportunity to give exact number of repetitions (+) or general unspecific number of repetitions (++) is available for the wrist movement as well (see previous section).

(6) Asymmetrical, simultaneous flapping of individual fingers is notated by the symbol for **finger play** .

(7) All other **movements within the hand** utilize the substitute symbol as a handshape change symbol. In the examples below, the three dots (...) represent any intervening notation in the abbreviated transcriptions.

Grasping movement, beginning with extended fingers

Bending of the index finger

Quick extension of the index finger

5. TWO-HANDED SIGNS

With two-handed signs, we distinguish between symmetrical and nonsymmetrical signs.

5.1. TWO-HANDED SYMMETRICAL SIGNS

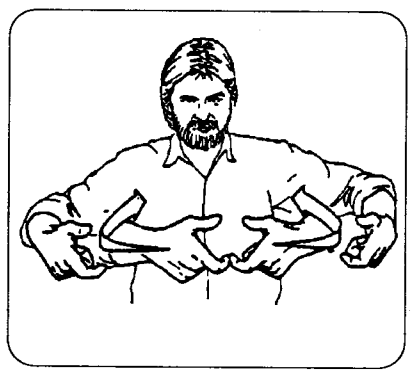
•• or : With two-handed symmetrical signs, both hands show the same shape. Therefore, only the dominant hand (described as right hand) needs to be notated. The non-dominant hand, the so-called left hand, is located next to, above, underneath, or in front of the right hand, and does not require a separate description. The movement of the hands is the same in symmetrical signs; however the hands may move simultaneously or alternately.

Depending on how the two hands are coordinated, we distinguish between the following two groups of symmetrical signs:

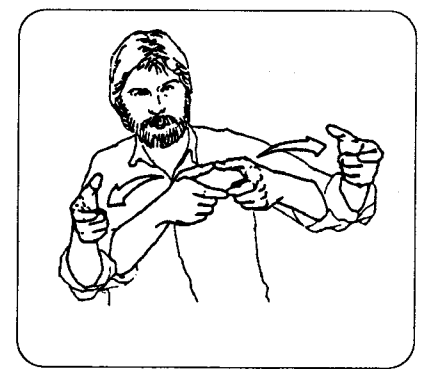
••

1. Two dots next to each other (••) preceding the handshape stand for two-handed symmetrical signs. In such signs, the hand positions mirror one another.

The movement of this kind of symmetrical sign is also mirrored.



CAR-luxurious

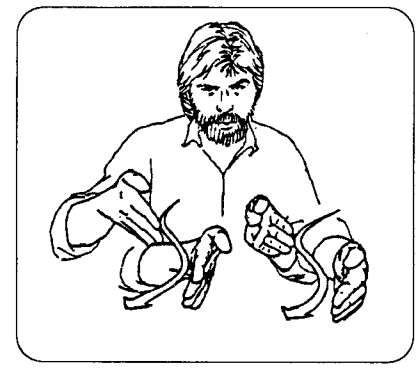


BRIDGE

:

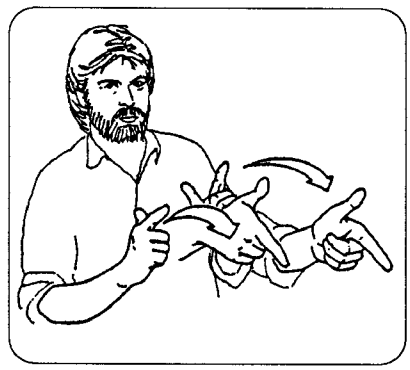
2. The colon (:) indicates that the location and the movement of the hands are parallel. However, instead of being mirrored, the hands move harmoniously together through the signing space. The following two examples show two parallel symmetrical signs, one with movement, the other without :

CAR-PARKING-pl.

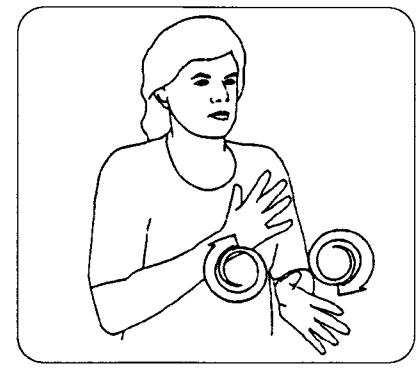


ROAD-winding

With symmetrical signs involving movement, the movements of both hands are identical and run either *simultaneously* as in the sign for GO-TO or *alternately* as in SIGNING.



GO-TO



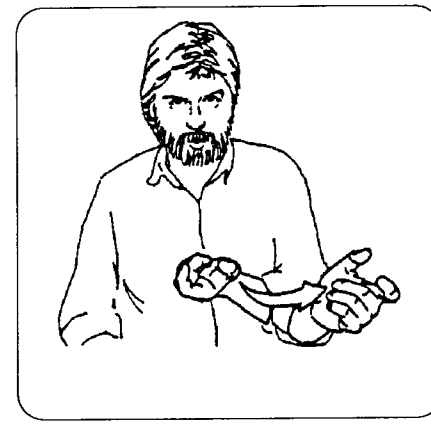
SIGNING

... ~ **Alternating** movements of symmetrical signs are indicated by the addition of the symbol ~ (see SIGNING)

If the positions of the two hands are not simply analogous (for example, if one hand is positioned over or in front of the other), the location of both hands must be more exactly described. This is done by first indicating the orientation of the non-dominant (as left hand), to which the position of the dominant hand refers. In the sign ROCK-BABY, for example, the symbol for the back of hand ⌒ indicates that the right hand lies underneath the back of the left hand.

ROCK-BABY

Ø If the sign is performed by the non-dominant hand, for example a right-handed person signing with the left hand, the symbol Ø precedes the symbol for the handshape. This is to indicate the change of the dominant hand from right to left. In the example a right-handed person uses his left hand to sign BEND.



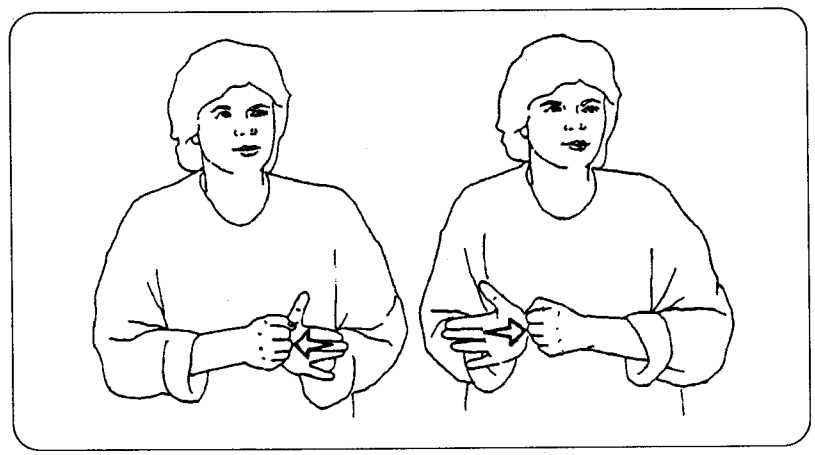
BEND

For all other two-handed signs,

BOTH HANDS ARE NOTATED :

first the non-dominant, then the dominant hand.

-(...)~ The enclosure of symbols for *handshape*, *location*, and *movement* in round brackets indicates an uncommon two-handed sign in which the handshapes and the movement change alternately.



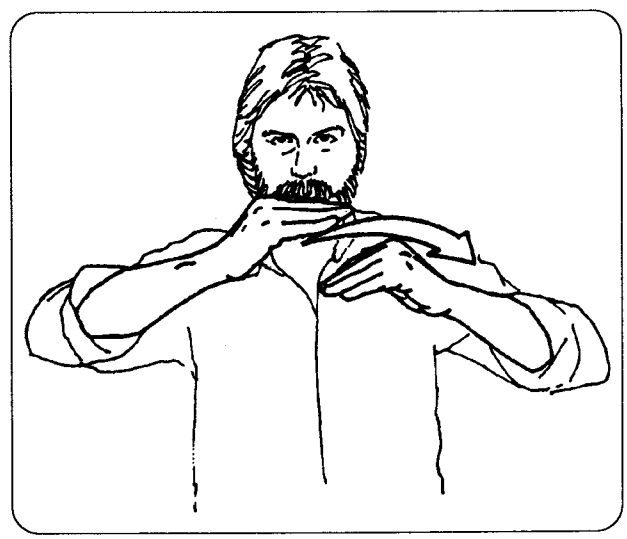
MITTEN

5.2. TWO-HANDED NONSYMMETRICAL SIGNS

In contrast to the symmetrical signs, in the nonsymmetrical two-handed signs, movement occurs only with the dominant hand. The handshapes of the two hands are often different. In these nonsymmetrical two-handed signs, both handshapes must be described, and, if necessary, their relationship to each other. Otherwise, the sign is treated like a one-handed sign.

As already stated, the non-dominant hand is first described, then the dominant hand.

Example of a nonsymmetrical two-handed sign complex:



car-GO-OVER-bridge

6. OVERVIEW OF NOTATION SYMBOLS

6.1. Table of Handshapes

6.2. Hand Orientation

6.3. Location

6.4. Movement

6.5. Non-Manual Signals

6.6. Keyboard for APPLE Macintosh Family

TABLE OF HANDSHAP

listed according to form-groups

FORM-GROUP	BASIC-SYMBOL	THUMB		ANGLES			ROUND			BENT		
		extended	across		th. extended	th. across		th. extended	th. across		th. extended	th. across
FIST												
FLAT HAND												
INDIVIDUAL FINGERS												
ONE FINGER handshapes — individual finger												
TWO FINGER handshapes — index finger+ middle finger closed (see)												
TWO FINGER handshapes — index finger+ middle finger open												
five-finger hand												
COMBINATIONS		thumb away	ind. finger close to				intensified rounding if fingers = fingernails behind thumbtip			intensified bending of fingers up to thumb-hand joint		
derivat from FIST — closed												
derivat from FIST — open												
derivat from INDIVIDUAL FINGER — closed												
derivat from INDIVIDUAL FINGER — open												

In the same way that THUMB-INDEX FINGER combinations are produced, also the THUMB-MIDDLE FINGER (+3), THUMB-RING FINGER (+4) and

HamNoSys
Hamburg Notation System
for Sign Language
An Introduction
Version 2.0

finger numbers:

1 THUMB
2 INDEX FINGER
3 MIDDLE FINGER
4 RING FINGER
5 LITTLE FINGER

finger parts:

FINGERTIP
FINGERNAIL
FINGERTIP PAD
MIDDLE JOINT
FINGER/HAND JOINT
SIDE OF FINGER
\ BETWEEN TWO DIGITS

Zentrumsverlag: SIGNUM
Hans - Albers - Platz 2
D • 2000 Hamburg 36

6.2. HAND ORIENTATION

a. Wrist

	bent towards pulse
	bent towards back of arm
	bent to thumb side
	bent to small finger side

b. Palm		: indicate :		c. Extended Finger
		left		0
		left and up		
		left and down		
		right		0
		right and up		
		right and down		
		up		
		down		
		away from body:		
		to the left		
diagonal:		to the left/up		to the left/down
		to the right		
diagonal:		to the right/up		to the right/down
		upwards		
		downwards		
		towards body:		
		to the left		
diagonal:		to the left/up		to the left/down
		to the right		
diagonal:		to the right/up		to the right/down
		upwards		
		downwards		

6.3. LOCATION

∅ or *no symbol*	Neutral space
	Head
	Top of head
	Forehead
	Eyebrows
	Eyes
	Nose
	Ear
	Cheek
	Lips
	Chin
	Under the chin
	Neck
	Shoulder
	Chest
	Stomach
	Below stomach
	Upper arm
	Elbow
	Inside of elbow
	Lower arm
	Back of wrist
	Pulse
	Back of Hand
	Palm
	Ball of thumb
	Thumb side of hand
	Little finger side of hand
1	Thumb
2	Index finger
3	Middle finger
4	Ring finger
5	Small finger

Additional symbols: right (left analogous)

	Right, above the head
	Right side of forehead
	Right eyebrow
	Right eye
	Right side of nose
	Right ear
	Right cheek
	Right, beside mouth
	Right, beside chin
	Right, under chin
	Right side of neck
	Right shoulder
	Right side of chest
	Right hip
	Right thigh

Parts of Finger

	Fingertip
	Fingernail
	Fingerpad
	Finger middle joint
	base of finger
	Side of finger
\	Between fingers

Signing Space

	In back of
	To the side of the body (r/l)
	Near
X	Contact
	Right/left of body
	Outstretched arm

6.4. MOVEMENT

⊘ no movement (no notation necessary)

TYPES OF MOVEMENTS

• Straight Movement:

• Curved Movement:

	direction:	⊂	⊃	∩	∪
←	**left**	towards body	away from body	upwards	downwards
↖	left/upwards				
↙	left/downwards				
→	**right**				
↗	right/upwards				
↘	right/downwards				
	away from body	to left	to right	upwards	downwards
↥	horizontal/forwards				
↖⊥	horizontal/forwards/left				
↗⊥	horizontal/forwards/right				
↘⊥	slanted downwards				
↗⊥	slanted upwards				
⊥	**towards body**				
↘⊥	towards body from left				
↙⊥	towards body from right				
↖⊥	towards body from below				
↙⊥	towards body from above				
↑	**upwards**	to left	to right	away from body	towards body
↓	**downwards**				

⊹	crossing movement	~ **Wavy** (vertically)	≂ **Wavy** (horizontally)
⊠	X-movement	~ **Zigzag** (vertically)	≂ **Zigzag** (horizontally)

• Circular Movements

Circling clockwise:		*Circling counterclockwise:*
↻	parallel to body	↺
↻	vertical away from body	↺
↻	horizontally towards body	↺

• Spiral Movements

Symbols from Straight and Circular Movements, in square brackets, e.g.

[↑↻] Horizontal upward circle in front of the body

⊳	Arc of the spiral/circle narrows	[↑↻⊳] ,	[↻⊳]
∠	Arc of the spiral/circle widens	[↑↻∠] ,	[↻∠]

• Individual Joints

Shoulder shrug (lifting of the shoulder)

Upper arm movement from shoulder joint only

Lower arm movement from elbow joint only (to the right)

Lower arm rotation (elbow joint) through change of palm orientation

Wrist Movements

	from intermediate position	*back and forth 1/2:*	*back and forth 1/1:*
	Bent towards pulse:		
	Bent towards hand back:		
	Bent towards little finger side:		
	Bent towards thumb side:		

Finger movements

Finger play

Finger movements resulting from handshape change

MANNER

Speed

Fast movement

Slow movement

Intensity

Tense

Hold or rest

Abrupt halt at offset

Size

Large, expansive movement (to the right)

Normal size (unmarked, no additional notation)

Small movement

REPETITION of Movements

Exact number of repetition (one symbol is used for each repetition)

repeating the movement from the starting point

changing starting point (continuous movement)

Unspecific number of repetitions (usually small movements)

repeating the movement from the starting point

changing starting point (continuous movement)

COMBINATION Symbols

↣ Change of handshape and orientation
(for the last only, if there ist no movement symbol)

( ) Grouping of several symbols which all undergo the same modification
(e.g. repetition of a complex movement)

[ ] Grouping of symbols for simultaneously occurring movements

HAND ARRANGEMENT

‥ Two-handed sign; the hand positions mirror one another

: Two-handed sign, paralleled but not mirrored

~ Two-handed sign with alternating onset location and movement

)(Approaching/Near *(notation of body part first !)*

X Contact *(notation of body part first !)*

⨯ Interlocking *(notation of body part first !)*

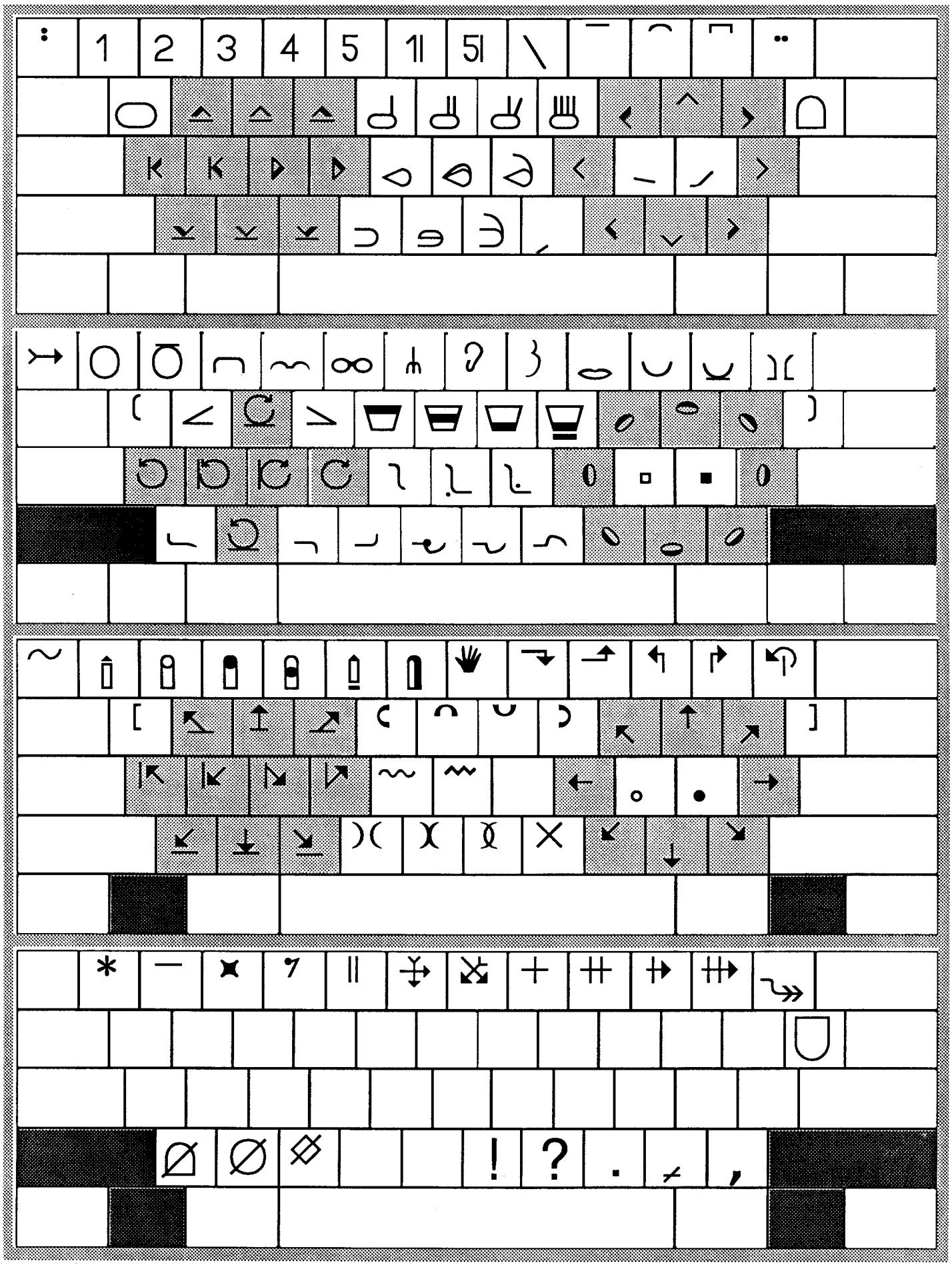
× Crossing (also for arms, wrists and fingers) *(notation of body part first !)*

⍁ Change of hand dominance (from right to left)

5. NON-MANUAL SIGNALS

Still in work

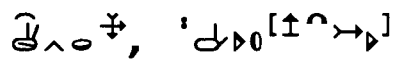
HamNoSys: Keyboard for the APPLE Macintosh Family



••• see also the colored keyboard table •••

TRANSCRIPTION OF AN EXAMPLARY TEXT IN GERMAN SIGN LANGUAGE

.1. Transcription in GLOSSES
2. Formal sign notation (sign-writing: *HamNoSys*)
3. *Translation into spoken language*



JOURNEY TO SWITZERLAND

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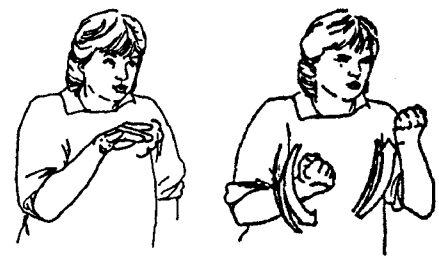
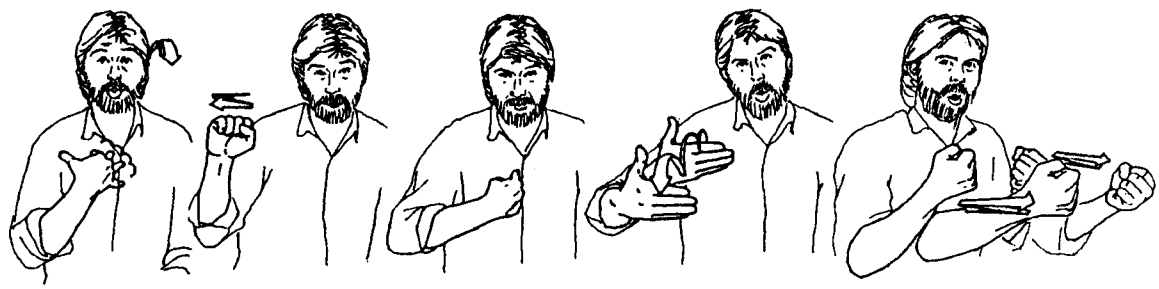
* From: S. Prillwitz e.a.: *Skizzen zu einer Grammatik der Deutschen Gebärdensprache.* [Sketches of a Grammar of German Sign Language] Hamburg: Zentrum 1985



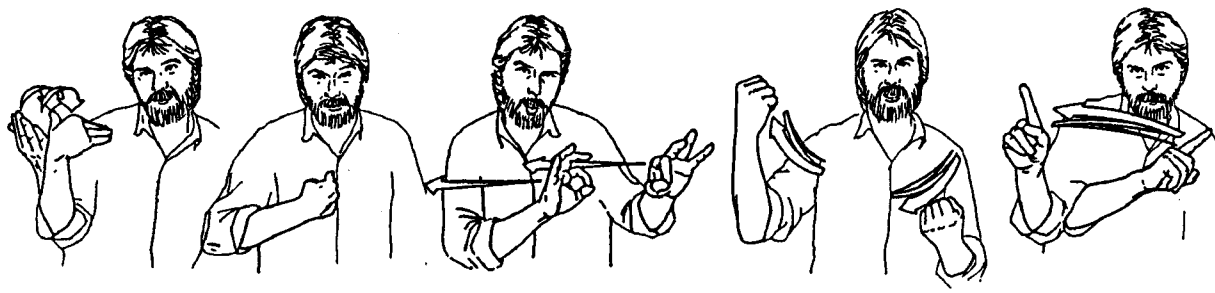
question ?
•(1)• you-HAVE CAR ?
sch



Do you have a car ?

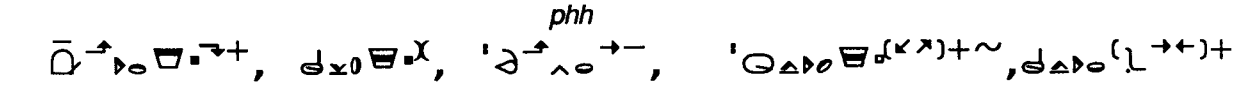
affirmation causal
(2) I-HAVE WHY I OFTEN DRIVING-A-CAR++.

Yes, I've got a car, because I'm often driving.



(3) IN-THE-PAST REGULARY BUS TO-AND-FRO.

phh

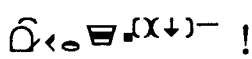


In former times I had to go to and fro by bus.

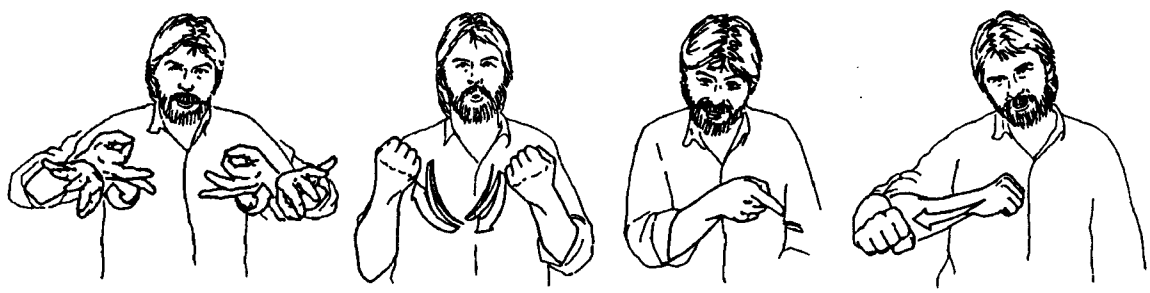
intensive

(4) TROUBLESOME

phh



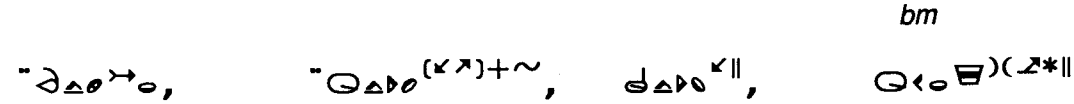
But that was very troublesome.



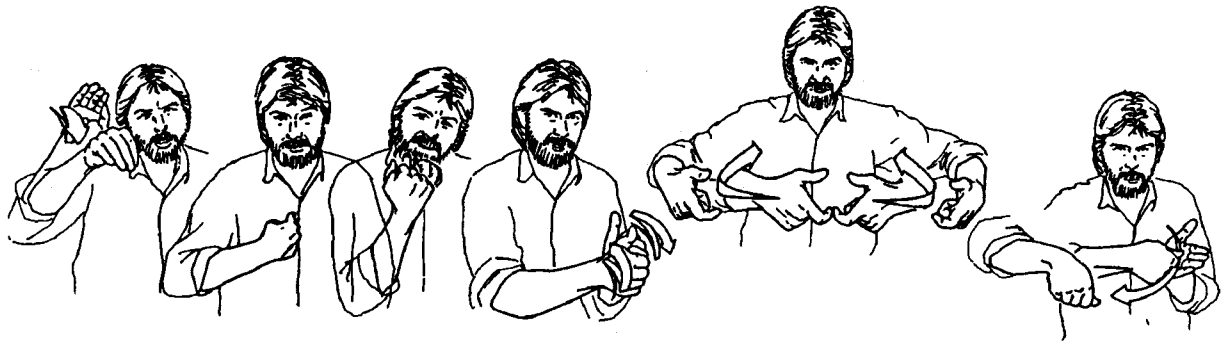
Eyebrows up intensive gradation

(5) AT-LAST CAR , INDEX-car SPEED

bm



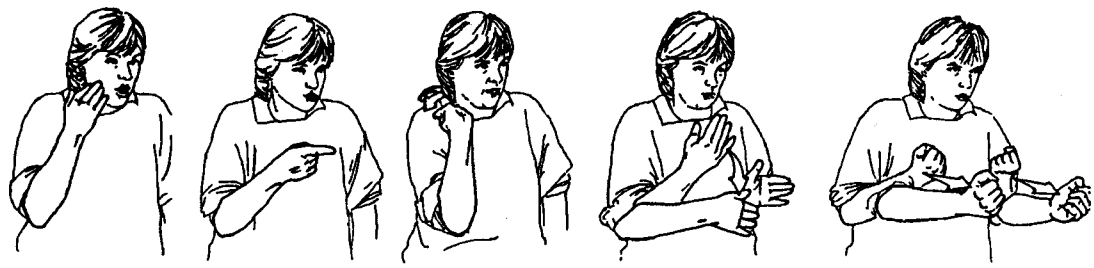
Now I've got a car that's very fast indeed.



intensive nodding

(6) LATER, I WANT-TO RACING CAR-shape TO-BUY.
fff *psss*

Later on I would like to get me a racing car.



question ?

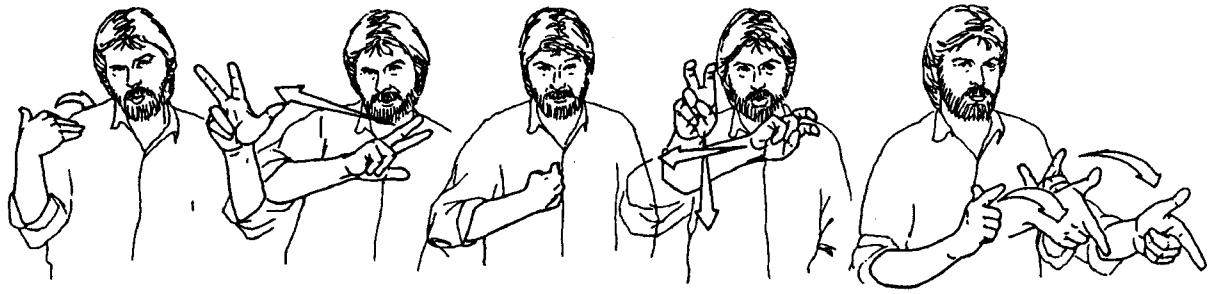
•(7)• WHEN YOU RECENTLY AT-LAST DRIVING-A-CAR (YOU) ?

When did you have your last trip by car?

question ?

•(8)• WHERE-TO-YOU ?

Where did you go?

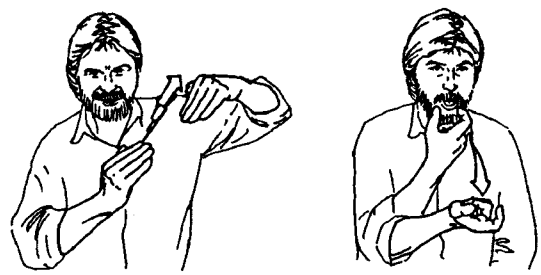


(9) AGO THREE-WEEKS ⊥ SWITZERLAND GOING-TO.
phh

Three weeks ago I went to Switzerland.

(10) (THERE) A-LOT-OF MOUNTAINS ⊥ DRIVING-uphill-downhill
duration + intensive
phh

There were a lot of mountains and I kept on driving uphill and downhill.



(11) DRIVING-UPHILL-car-steep-very slow EXHAUSTING
intensive intensive
ssss

Uphill I was moving quite slowly and it was incredible exhausting.

relaxed intensive

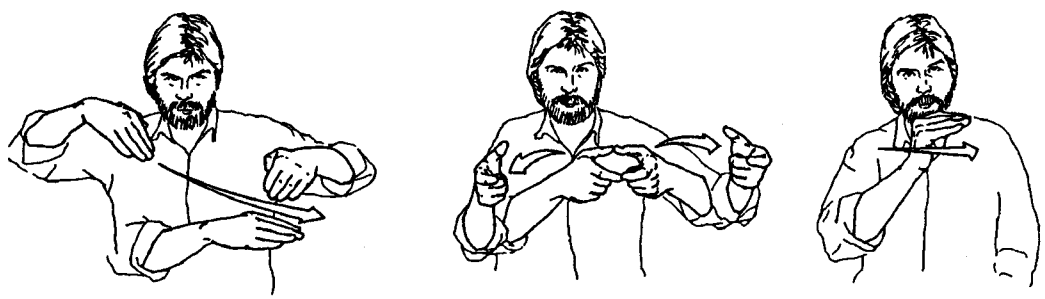
(12) AT-LAST (MOUNTAIN)-DRIVING-car-over-mountain DRIVING-car downhill-very fast,
phh *sch*

When I managed the mountain, I went downhill very fast,

intensive

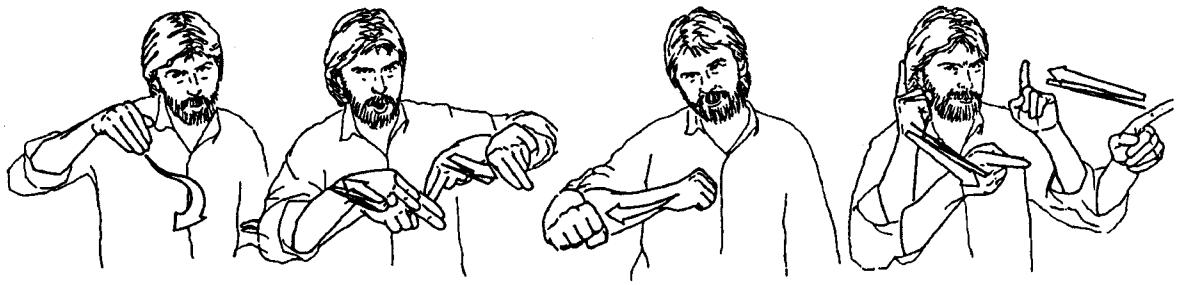
(13) (THERE) CURVE I DRIVING-car-sharp-curve,

around a sharp curve,



14) TUNNEL-DRIVING-car through, BRIDGE DRIVING-car-over

after that through a tunnel and over a bridge.

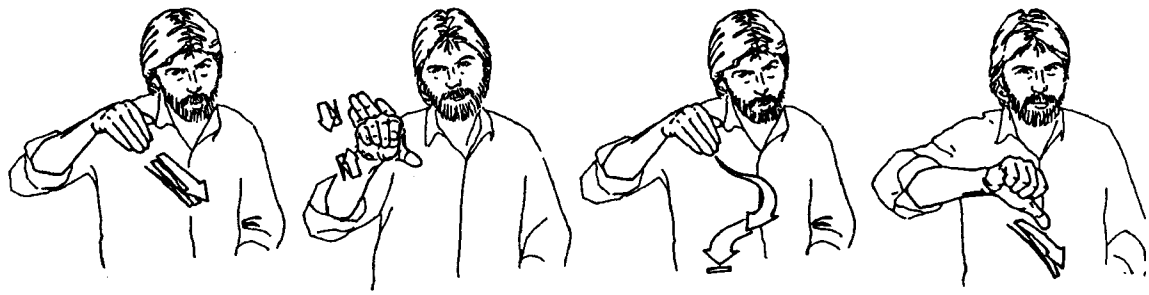


intensive

(15) DRIVING-car MOTORWAY (SPEED) I- MOVING-very-fast.

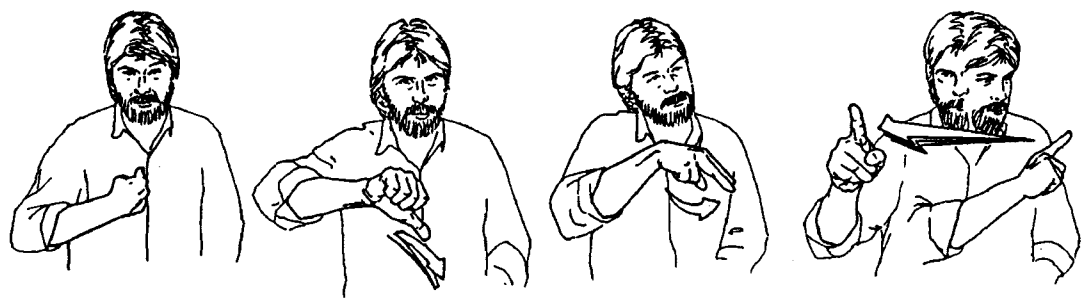
bm

After that I went on a motorway, where I drove like hell.



(16) DRIVING-car-distance (BLINK) DRIVING-*car-aside-stop,* TAKE-IN-PETROL.

After a while I went to a resting-place to take in petrol.

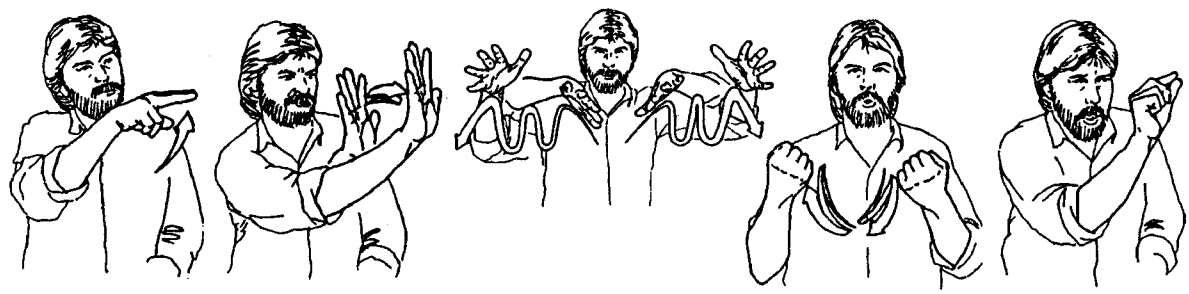


; line of sight (2)

(17) I TAKE-IN-PETROL OBSERVING car-DRIVING-past-very-fast.

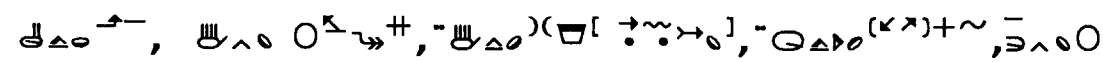
bm+++

While I was taking in petrol, I saw the cars rushing past.



intensive+line of sight (1+2)

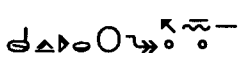
(18) OBSERVING DISTANCE-long MOUNTAINS CAR SMALL.
long long *lll*



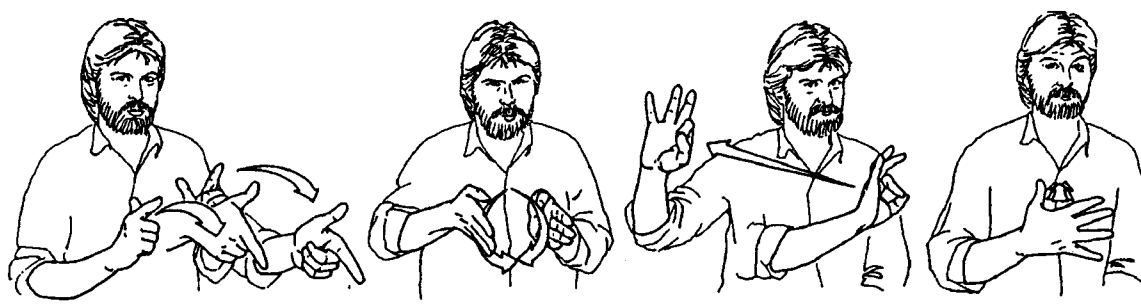
In a long distance, up in the mountains the cars seemed to be very small.

intensive+line of sight (2)

(19) car-MOVING-long-distance-very slow-uphill.

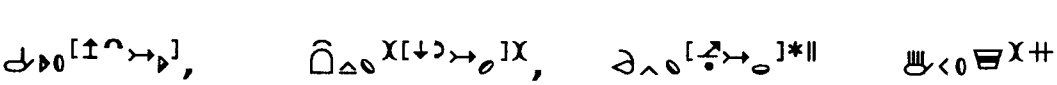


They were creeping uphill very slow.

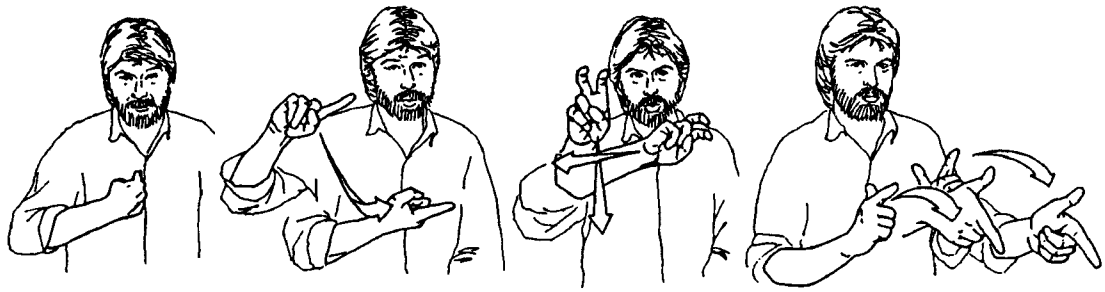


intensive

(20) GOING-THERE WHOLE VERY-MUCH LIKE



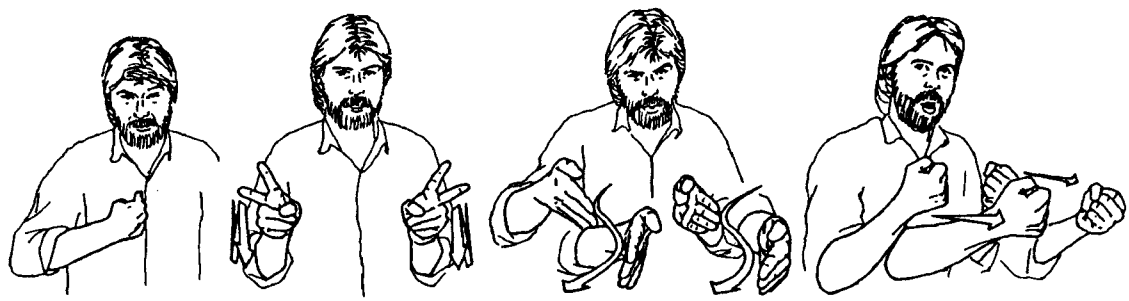
I liked the whole journey very much.



conditional

(21) ⊥ AGAIN SWITZERLAND DRIVING-TO,
phh

If I go to Switzerland again,



I SAME WAY DRIVING-A-CAR.

I'll take the same way.