

# Sign language transcription conventions for the ECHO Project

## SSL mouth annotations

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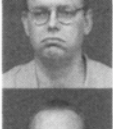

URL: [http://www.let.kun.nl/sign-lang/echo/docs/transcr\\_mouth\\_SSL.pdf](http://www.let.kun.nl/sign-lang/echo/docs/transcr_mouth_SSL.pdf)

### **SSL mouth annotations**

For the notations of the mouth pattern in SSL we used the description proposed by Bergman and Wallin (2001). They describe a subset of mouth gestures, namely lexically determined and non-morphemic mouth gestures, referred to as mouth components. Mouth components do not carry a meaning on their own (oral/facial adverbs are excluded). Bergman and Wallin analyze these gestures as sequentially ordered combinations of a small set of open and closed segments. The description of the form of mouth patterns in terms of features is based on visible contrast. The different mouth patterns used in the Bergman and Wallin-system are illustrated by means of pictures of mouth positions, the features involved in these positions (e.g. [-open]) and the label that is used in the annotation (e.g. /BILABIAL/).

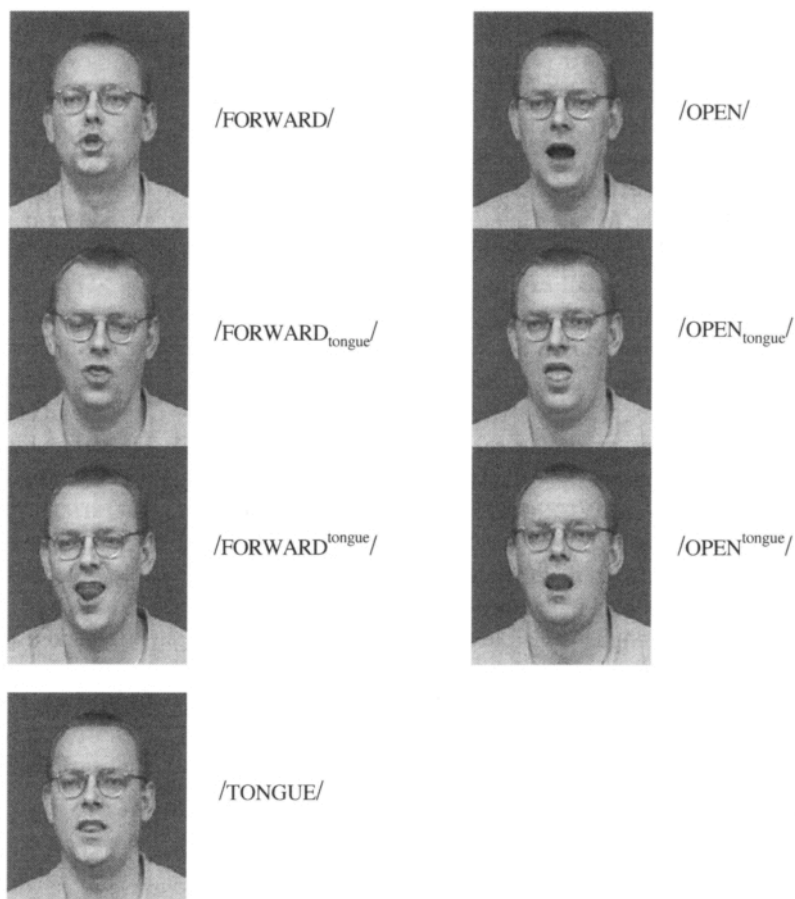
Mouth components basically consist of a change from an *open* to *closed* mouth or visa versa. This could be described as sequences of closed and open segments. Yet, the mouth can be closed in different ways and an open mouth may take on different forms.

Bergman and Wallin propose a small set of segments: three *closed* (/BILABIAL/, /CHEEKS/ and /LABIODENTAL/) and seven *open* (/STRETCHED/, /FORWARD/, /ROUND/, /PURSED/, /OPEN/, /AIRSTREAM/ and /TONGUE/). These are shown in the picture below (images reproduced with permission of the authors). Note that the neutral closed mouth is not a segment.

I		[ -open ]	/BILABIAL/
II		[ -open +air ]	/CHEEKS/
III		[ +in ]	/LABIODENTAL/
IV		[ +corner ]	/STRETCHED/
V		[ +forward -round ]	/FORWARD/
VI		[ +forward +round ]	/ROUND/
VII		[ -forward -round ]	/PURSED/
VIII		[ +gap ]	/OPEN/
IX		[ +open +air ]	/AIRSTREAM/
X		[ +tongue ]	/TONGUE/

- /CHEEKS/ is distinguished from /BILABIAL/ by the presence of air.
- The difference between /LABIODENTAL/ and /BILABIAL/ is the activity of the lower lip.
- The segments /STRETCHED/ and /OPEN/ both have stretched lips but differ in the feature *jaw*.
- The segment /AIRSTREAM/ contrasts with /CHEEKS/ in that the latter is closed, therefore not allowing the air to move out of the mouth, whereas in the segment /AIRSTREAM/ the air streams out, making the lips part.
- In /TONGUE/ the tongue is visible and protruding and the lips are not marked with any other feature. When the tongue is protruding, it may be raised and in contact with the upper teeth/lip or lowered in contact with the lower teeth/lip. Bergman

and Wallin represent this difference by a superscript and a subscript respectively (/FORWARD<sup>tongue</sup>/ or /OPEN<sub>tongue</sub>/). Yet in ELAN it is not possible to use super- or subscript. The position of the tongue should therefore be described as /FORWARD-tongue up/ or /OPEN-tongue low/.



A set of labelled segments allows us to represent mouth components of signs with monosegmental, bisegmental and trisegmental mouth components. Mouth components with four segments are actually reduplications; i.e. they do not contain four different segment types, only two, and may therefore be described as reduplicated bisegmental forms.

### *Monosegmental Mouth Components*

<b>-open</b>	/BILABIAL/ /CHEEKS/
<b>+open</b>	/STRETCHED/ /FORWARD/ /ROUND/ /PURSED/ /OPEN/

### *Bisegmental Mouth Components*

<b>-open, +open</b>	/BILABIAL, STRETCHED/ /FORWARD, BILABIAL/
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	/BILABIAL, ROUND/ /BILABIAL, OPEN/ /BILABIAL, AIR/ /BILABIAL, TONGUE/ /LABIODENTAL, ROUND/ /LABIODENTAL, FORWARD/ /LABIODENTAL, OPEN/ /LABIODENTAL, TONGUE/
<b>+open , -open</b>	/FORWARD, BILABIAL/ /FORWARD, LABIODENTAL/ /OPEN, CHEEKS/ /OPEN, LABIODENTAL/ /OPEN, BILABIAL/
<b>+open, +open</b>	/STRETCHED, PURSED/ /STRETCHED, OPEN/ /OPEN, STRETCHED / /OPEN, PURSED / /OPEN, TONGUE /

### ***Trisegmental Mouth Components***

<b>-open, +open, -open,</b>	/BILABIAL, ROUND, LABIODENTAL / /BILABIAL, OPEN, LABIODENTAL /
<b>+open , -open, +open</b>	/OPEN, CHEEKS, AIR/

### ***Reduplicated Bisegmental Mouth Components***

<b>-open, +open, -open, +open,</b>	/BILABIAL, STRETCHED, BILABIAL, STRETCHED /
<b>+open , -open, +open, open</b>	/OPEN, STRETCHED, OPEN, STRETCHED /

Sometimes there are mouth components which should not be defined as /AIRSTREAM/, but do have a clear presence of air sucked in or breathed out. This can be represented by -air in, -air out, e.g. /ROUND-air in/ or /FORWARD-air out/.

### **References**

B. Bergman & L. Wallin (2001) A preliminary analysis of visual mouth segments in Swedish Sign Language. In P. Boyes Braem & R. Sutton-Spence (eds.) *The hands are the head of the mouth*. Hamburg: Signum-Verlag. Pp. 51-68.