# Current Issues in Sign Language Linguistics/1

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I Escuela de Lingüística de Buenos Aires
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**Universitat Pompeu Fabra** *Barcelona*

LSC Lab
Laboratori de llengua de signes catalana

ICREA

# Day-by-day Programme

- **Monday:** Introduction to the study of sign languages. Sign language phonology.
- **Tuesday:** Sign language morphology.
- **Wednesday:** Sign language syntax.
- **Thursday:** The use of space in sign languages (morphosyntax). Pronouns.
- **Friday:** Agreement in sign languages.

# Sign Language Linguistics

• SL linguistics began in the 1960s with Stokoe's work on the phonology of ASL

• Linguistic studies demonstrated that SLs

- are not simple pantomimic systems
- are capable of expressing abstract ideas
- are not based on (but may be influenced by) the surrounding spoken language
- are natural languages with complex grammatical structure (psycho- and neurolinguistic evidence)
- differ from each other along the same lines as spoken languages do (Perniss et al. 2007)

# Trends in Sign Language Linguistics

- **Phase I** (ca. 1965-1985): sign languages (SLs) are like spoken languages (e.g. Stokoe, Fischer, Klima & Bellugi, Liddell)

- **Phase II** (1980's & 90's): SLs differ from spoken languages; modality effects (e.g. Brentari, Lillo-Martin, Meier, Neidle et al., Schembri, Woll)

- **Phase III** (since late 1990's): SLs differ from each other; sign language typology (e.g. Zeshan, Wilbur, Quer, Pfau & Steinbach)

# Types of Deaf/Sign Communities

- Large Deaf communities, e.g. in Western / industrialized nations
- Integrated Deaf communities, "Deaf villages":

    e.g. Martha's Vineyard (US; extinct), Adamorobe (Ghana), Desa Kolok (Bali), Al Sayyid Bedouin (Israel)

- Lack of community: isolated home signers (the Nicaraguan case)
- Communities with secondary SLs: Aboriginal SLs, Monastic SLs

# Manual Communication Systems
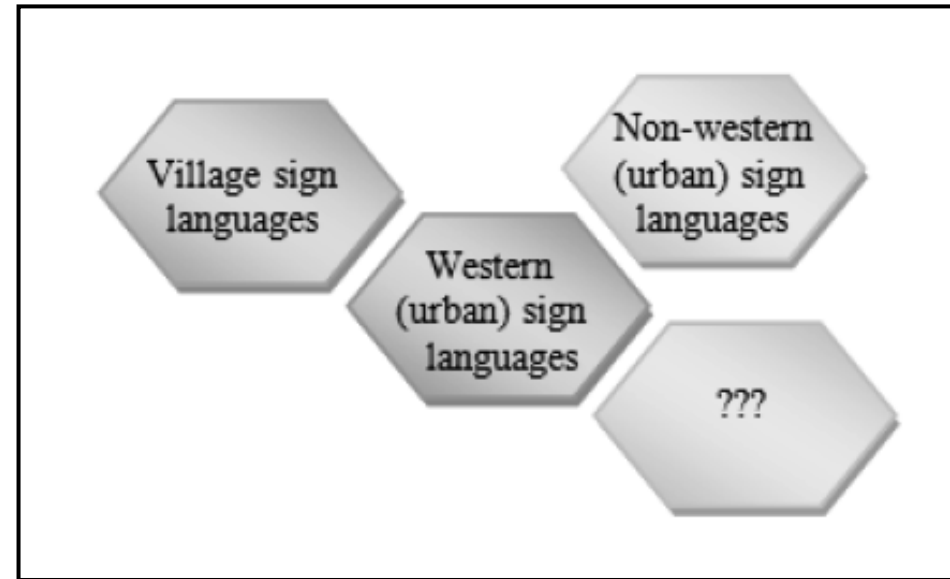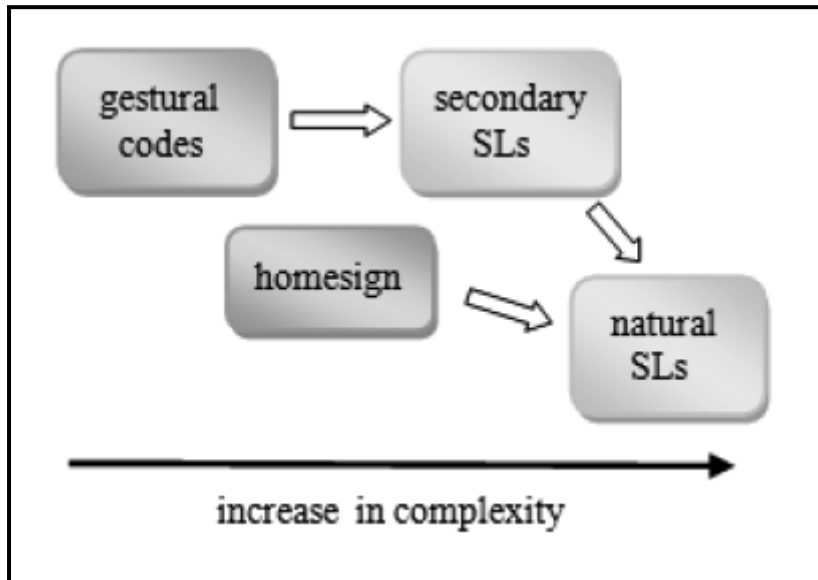




- Development of one system from another
- Other classifications: *shared/rural sign languages*, *emerging sign languages*

# Monastic Sign Systems

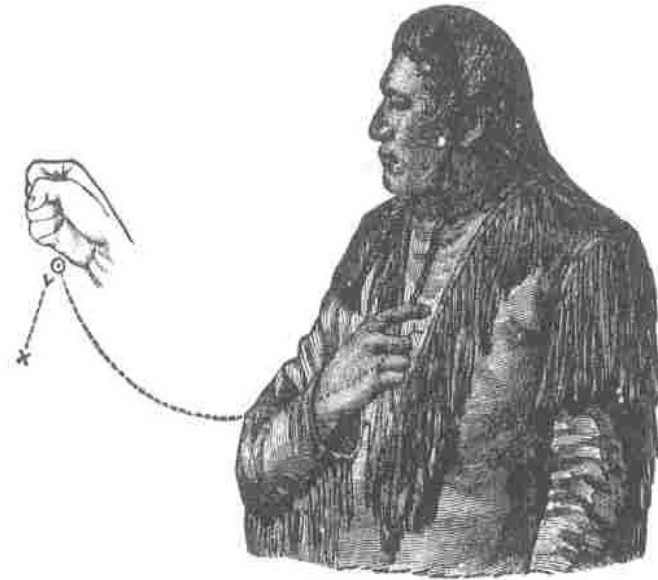- Vow of silence, e.g. Benedictines, Cistercians, Trappists

# Aboriginal Sign Sytems

- E.g. Plains Indian SL: lingua franca



'rain'



'I'm going home'

# Popular Misconception I

Sign language is universal

# Ethnologue: Deaf Sign Languages

ADAMOROBE SIGN LANGUAGE  [ADS] (Ghana)
ARGENTINE SIGN LANGUAGE  [AED] (Argentina)
ARMENIAN SIGN LANGUAGE  [AEN] (Armenia)
AMERICAN SIGN LANGUAGE  [ASE] (USA)
AUSTRALIAN SIGN LANGUAGE  [ASF] (Australia)
ALGERIAN SIGN LANGUAGE  [ASP] (Algeria)
AUSTRIAN SIGN LANGUAGE  [ASQ] (Austria)
AUSTRALIAN ABORIGINES SL  [ASW] (Australia)
BRITISH SIGN LANGUAGE  [BHO] (United Kingdom)
BAN KHOR SIGN LANGUAGE  [BLA] (Thailand)
BAMAKO SIGN LANGUAGE  [BOG] (Mali)
BULGARIAN SIGN LANGUAGE  [BQN] (Bulgaria)
BALI SIGN LANGUAGE  [BQY] (Indonesia (Java and Bali))
BOLIVIAN SIGN LANGUAGE  [BVL] (Bolivia)
BELGIAN SIGN LANGUAGE  [BVS] (Belgium)
BRAZILIAN SIGN LANGUAGE  [BZS] (Brazil)
CHADIAN SIGN LANGUAGE  [CDS] (Chad)
CATALONIAN SIGN LANGUAGE  [CSC] (Spain)
CHIANGMAI SIGN LANGUAGE  [CSD] (Thailand)
CZECH SIGN LANGUAGE  [CSE] (Czech Republic)
CHILEAN SIGN LANGUAGE  [CSG] (Chile)
CHINESE SIGN LANGUAGE  [CSL] (China)
COLOMBIAN SIGN LANGUAGE  [CSN] (Colombia)
COSTA RICAN SIGN LANGUAGE  [CSR] (Costa Rica)

DOMINICAN SIGN LANGUAGE  [DOQ] (Dominican Republic)
DUTCH SIGN LANGUAGE  [DSE] (Netherlands)
DANISH SIGN LANGUAGE  [DSL] (Denmark)
ECUADORIAN SIGN LANGUAGE  [ECS] (Ecuador)
SALVADORAN SIGN LANGUAGE  [ESN] (El Salvador)
ESTONIAN SIGN LANGUAGE  [ESO] (Estonia)
ETHIOPIAN SIGN LANGUAGE  [ETH] (Ethiopia)
QUEBEC SIGN LANGUAGE  [FCS] (Canada)
FINNISH SIGN LANGUAGE  [FSE] (Finland)
FRENCH SIGN LANGUAGE  [FSL] (France)
GHANAIAN SIGN LANGUAGE  [GSE] (Ghana)
GERMAN SIGN LANGUAGE  [GSG] (Germany)
GUATEMALAN SIGN LANGUAGE  [GSM] (Guatemala)
GREEK SIGN LANGUAGE  [GSS] (Greece)
GUINEAN SIGN LANGUAGE  [GUS] (Guinea)
HANOI SIGN LANGUAGE  [HAB] (Viet Nam)
HAIPHONG SIGN LANGUAGE  [HAF] (Viet Nam)
HO CHI MINH CITY SIGN LANGUAGE  [HOS] (Viet Nam)
HAWAI'I PIDGIN SIGN LANGUAGE  [HPS] (USA)
HUNGARIAN SIGN LANGUAGE  [HSH] (Hungary)
HAUSA SIGN LANGUAGE  [HSL] (Nigeria)
ICELANDIC SIGN LANGUAGE  [ICL] (Iceland)
INDONESIAN SIGN LANGUAGE  [INL] (Indonesia (Java and Bali))
INDIAN SIGN LANGUAGE  [INS] (India)
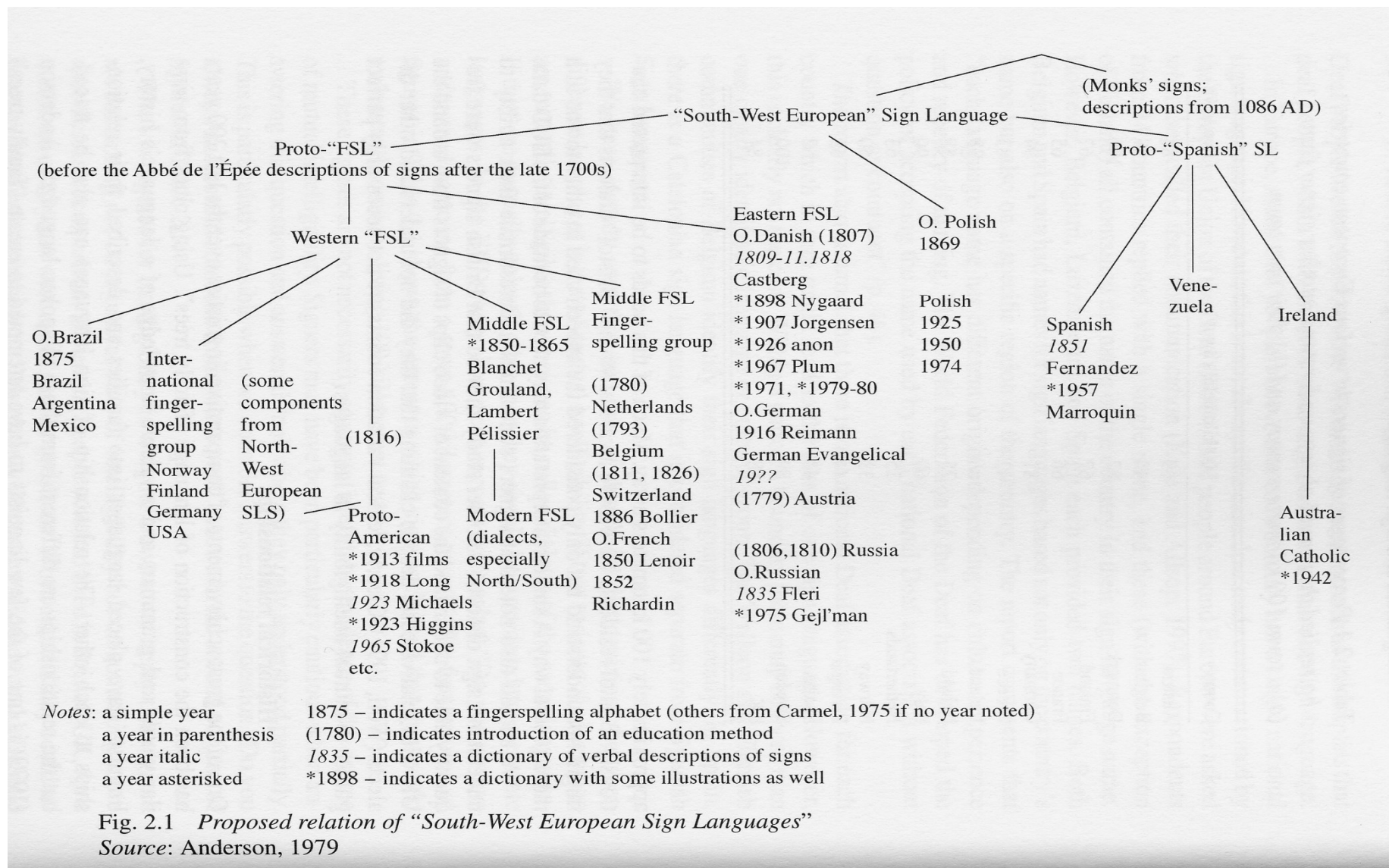
# Ethnologue: Deaf Sign Languages

ITALIAN SIGN LANGUAGE  [ISE] (Italy)
IRISH SIGN LANGUAGE  [ISG] (Ireland)
ISRAELI SIGN LANGUAGE  [ISL] (Israel)
JAMAICAN COUNTRY SIGN LANGUAGE  [JCS] (Jamaica)
JORDANIAN SIGN LANGUAGE  [JOS] (Jordan)
JAPANESE SIGN LANGUAGE  [JSL] (Japan)
KUALA LUMPUR SIGN LANGUAGE  [KGI] (Malaysia)
KOREAN SIGN LANGUAGE  [KVK] (Korea, South)
LIBYAN SIGN LANGUAGE  [LBS] (Libya)
LITHUANIAN SIGN LANGUAGE  [LLS] (Lithuania)
LYONS SIGN LANGUAGE  [LSG] (France)
LATVIAN SIGN LANGUAGE  [LSL] (Latvia)
LAOS SIGN LANGUAGE  [LSO] (Laos)
MALTESE SIGN LANGUAGE  [MDL] (Malta)
MEXICAN SIGN LANGUAGE  [MFS] (Mexico)
MARTHA'S VINEYARD SIGN LANGUAGE  [MRE] (USA)
YUCATEC MAYA SIGN LANGUAGE  [MSD] (Mexico)
MOZAMBICAN SIGN LANGUAGE  [MZY] (Mozambique)
NAMIBIAN SIGN LANGUAGE  [NBS] (Namibia)
NICARAGUAN SIGN LANGUAGE  [NCS] (Nicaragua)
NIGERIAN SIGN LANGUAGE  [NSI] (Nigeria)
NORWEGIAN SIGN LANGUAGE  [NSL] (Norway)
NEPALESE SIGN LANGUAGE  [NSP] (Nepal)
MARITIME SIGN LANGUAGE  [NSR] (Canada)
NEW ZEALAND SIGN LANGUAGE  [NZS] (New Zealand)

PAKISTAN SIGN LANGUAGE  [PKS] (Pakistan)
PERUVIAN SIGN LANGUAGE  [PRL] (Peru)
PROVIDENCIA SIGN LANGUAGE  [PRO] (Colombia)
PERSIAN SIGN LANGUAGE  [PSC] (Iran)
PENANG SIGN LANGUAGE  [PSG] (Malaysia (Peninsular))
PUERTO RICAN SIGN LANGUAGE  [PSL] (Puerto Rico)
POLISH SIGN LANGUAGE  [PSO] (Poland)
PHILIPPINE SIGN LANGUAGE  [PSP] (Philippines)
PORTUGUESE SIGN LANGUAGE  [PSR] (Portugal)
MONGOLIAN SIGN LANGUAGE  [QMM] (Mongolia)
ROMANIAN SIGN LANGUAGE  [RMS] (Romania)
RENNELLESE SIGN LANGUAGE  [RSI] (Solomon Islands)
RUSSIAN SIGN LANGUAGE  [RSL] (Russia (Europe))
SAUDI ARABIAN SIGN LANGUAGE  [SDL] (Saudi Arabia)
SOUTH AFRICAN SIGN LANGUAGE  [SFS] (South Africa)
SWISS-GERMAN SIGN LANGUAGE  [SGG] (Switzerland)
SWISS-ITALIAN SIGN LANGUAGE  [SLF] (Switzerland)
SINGAPORE SIGN LANGUAGE  [SLS] (Singapore)
SRI LANKAN SIGN LANGUAGE  [SQS] (Sri Lanka)
SPANISH SIGN LANGUAGE  [SSP] (Spain)
SWISS-FRENCH SIGN LANGUAGE  [SSR] (Switzerland)
SLOVAKIAN SIGN LANGUAGE  [SVK] (Slovakia)
SWEDISH SIGN LANGUAGE  [SWL] (Sweden)
TUNISIAN SIGN LANGUAGE  [TSE] (Tunisia)
TURKISH SIGN LANGUAGE  [TSM] (Turkey (Asia))

# Ethnologue: Deaf Sign Languages

THAI SIGN LANGUAGE  [TSQ] (Thailand)
 AIWANESE SIGN LANGUAGE  [TSS] (Taiwan)
 TANZANIAN SIGN LANGUAGE  [TZA] (Tanzania)
 UGANDAN SIGN LANGUAGE  [UGN] (Uganda)
 URUGUAYAN SIGN LANGUAGE  [UGY] (Uruguay)
 UKRAINIAN SIGN LANGUAGE  [UKL] (Ukraine)
 URUBÚ-KAAPOR SIGN LANGUAGE  [UKS] (Brazil)
 VENEZUELAN SIGN LANGUAGE  [VSL] (Venezuela)
 KENYAN SIGN LANGUAGE  [XKI] (Kenya)
 MALAYSIAN SIGN LANGUAGE  [XML] (Malaysia)
 MOROCCAN SIGN LANGUAGE  [XMS] (Morocco)
 YIDDISH SIGN LANGUAGE  [YDS] (Israel)
 YUGOSLAVIAN SIGN LANGUAGE  [YSL] (Yugoslavia)
 ZIMBABWE SIGN LANGUAGE  [ZIB] (Zimbabwe)
 ZAMBIAN SIGN LANGUAGE  [ZSL] (Zambia)

# Relationships among SLs

"South-West European" Sign Language

(Monks' signs; descriptions from 1086 AD)

Proto-"FSL"
(before the Abbé de l'Épée descriptions of signs after the late 1700s)

Proto-"Spanish" SL

Western "FSL"

Eastern FSL
O.Danish (1807)
*1809-11.1818*
Castberg
*1898 Nygaard
*1907 Jorgensen
*1926 anon
*1967 Plum
*1971, *1979-80
O.German
1916 Reimann
German Evangelical
*19??*
(1779) Austria

(1806,1810) Russia
O.Russian
*1835* Fleri
*1975 Gejl'man

O. Polish
1869

Polish
1925
1950
1974

Vene-
zuela

Spanish
*1851*
Fernandez
*1957
Marroquin

Ireland

O.Brazil
1875
Brazil
Argentina
Mexico

Inter-
national
finger-
spelling
group
Norway
Finland
Germany
USA

(some
components
from
North-
West
European
SLS)

(1816)

Middle FSL
*1850-1865
Blanchet
Grouland,
Lambert
Pélissier

Middle FSL
Finger-
spelling group

(1780)
Netherlands
(1793)
Belgium
(1811, 1826)
Switzerland
1886 Bollier
O.French
1850 Lenoir
1852
Richardin

Austra-
lian
Catholic
*1942

Proto-
American
*1913 films
*1918 Long
*1923* Michaels
*1923 Higgins
*1965* Stokoe
etc.

Modern FSL
(dialects,
especially
North/South)

Notes: a simple year          1875 – indicates a fingerspelling alphabet (others from Carmel, 1975 if no year noted)
       a year in parenthesis   (1780) – indicates introduction of an education method
       a year italic           *1835* – indicates a dictionary of verbal descriptions of signs
       a year asterisked       *1898 – indicates a dictionary with some illustrations as well

Fig. 2.1   *Proposed relation of "South-West European Sign Languages"*
Source: Anderson, 1979

# Genetic Relationships

- Due to education: e.g. influence of French SL on American SL
- Due to colonialism and emigration: e.g. relation of British SL to Australian and New Zealand SL; relation of Israeli SL and German SL
- Due to missionaries: e.g. influence of ASL on Ghanaian SL

# Origins of ASL
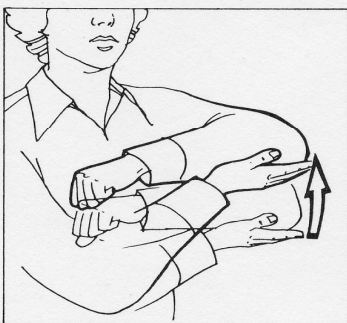


Cognates

French Sign Language / American Sign Language
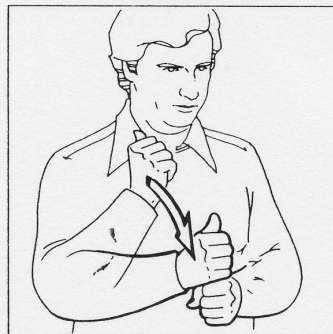
RIRE — LAUGH
AIDER — HELP
MENTEUR — LIAR

# Origins of ASL



Non-cognates

| French Sign Language | American Sign Language |
|---|---|
| PUNIR | PUNISH |
| HABITUDE | HABIT |
| PRESIDENT | PRESIDENT |
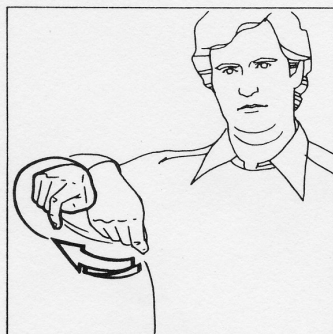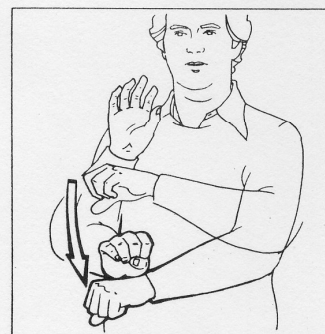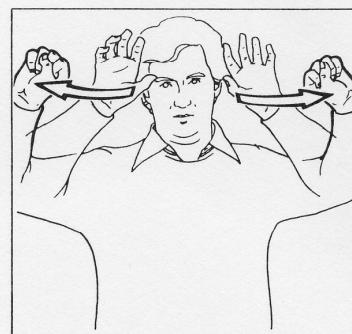
# Variation among SLs

- Variation at the **lexical** level; the role of iconicity
- Variation in **phonology**, e.g. use of signing space, handshapes
- Variation in **morphology** & morphosyntax: derivation, classifiers, plurals
- **Syntactic** variation, e.g. negation, questions, relative clauses

# Sociolinguistic Variation

- Dialectal variation; impact of educational setting, e.g. in the Netherlands; standardization
- Variation due to age, gender, ethnic background
- Register variation
- Diachronic variation

# Popular Misconception II

Sign languages are based on or derived from spoken languages

# Independence of SLs

- American Sign Language (ASL) vs. British Sign Language (BSL) vs. Irish Sign Language

- Flemish Sign Language (VGT) vs. Sign Language of The Netherlands (NGT)

- Only one SL is used throughout India and Pakistan

- The status of International Sign

# Possible Influences

- Within the linguistic system:
  - Word order; use of questions particles
  - Loan translations
  - Fingerspelling; initialized signs
  - Mouthing
- Beyond the linguistic system
  - Cognitively based metaphors
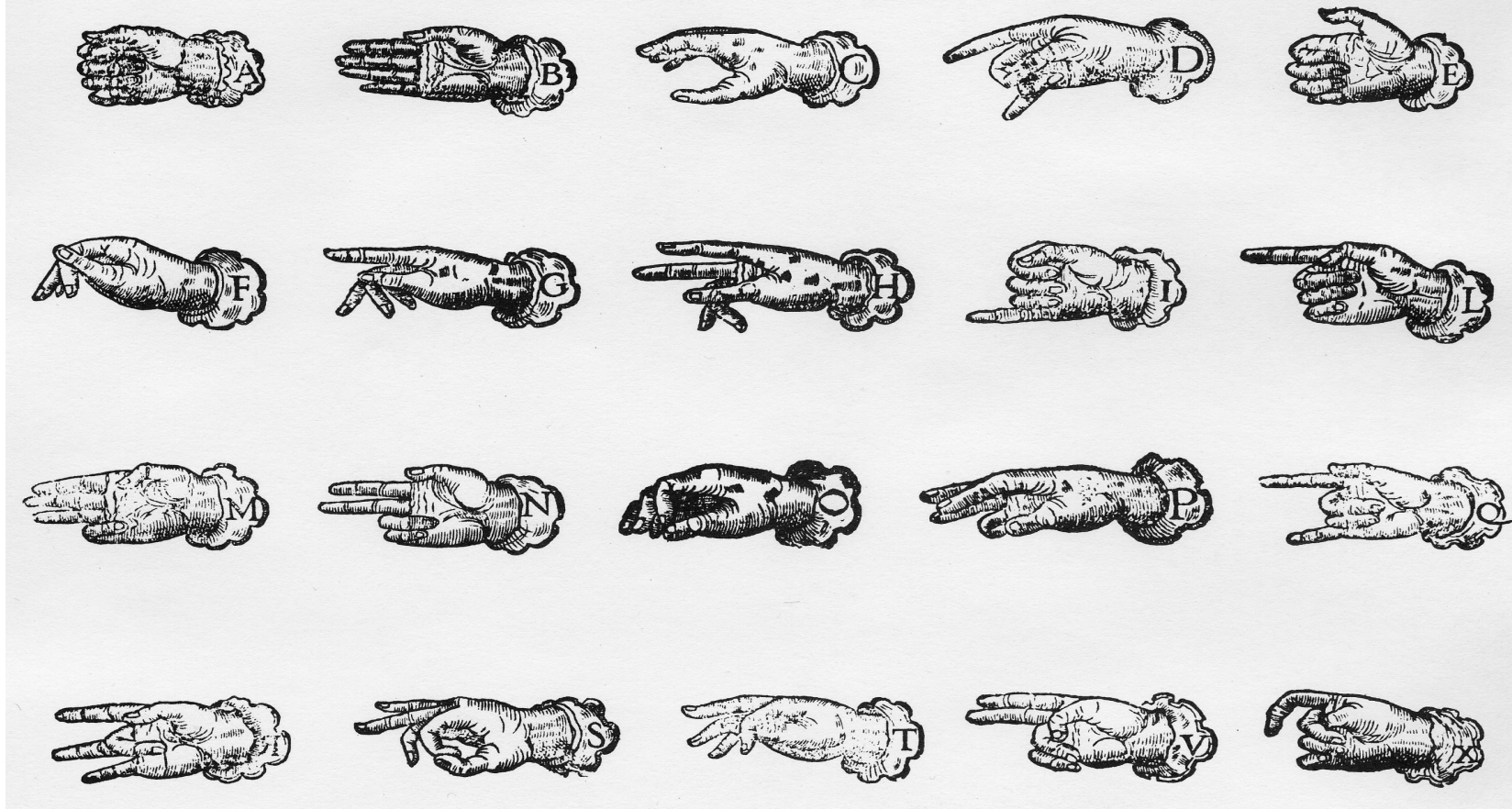  - Gesture

# Manual Alphabets
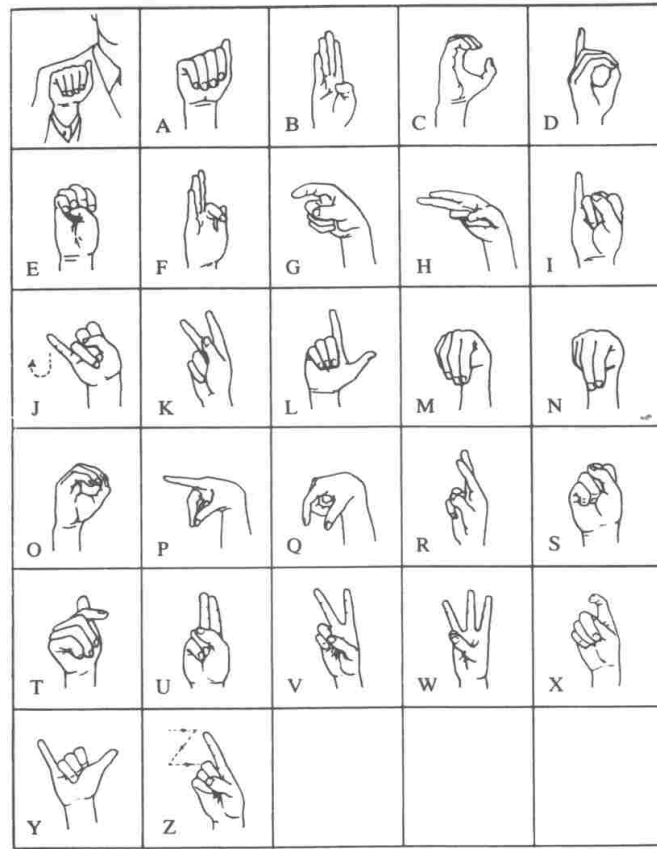


One-handed
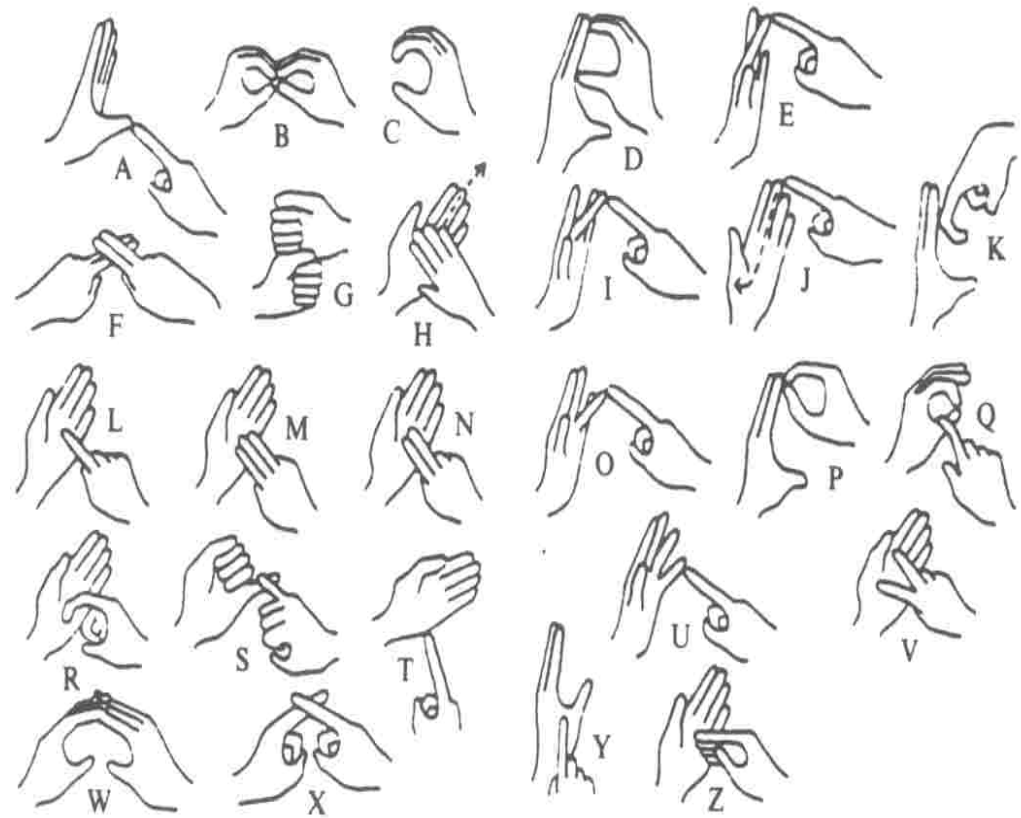


Two-handed

Comiença el A B C, ó Alphabe-
to del Seraphico Doctor
S. Buenauentura.

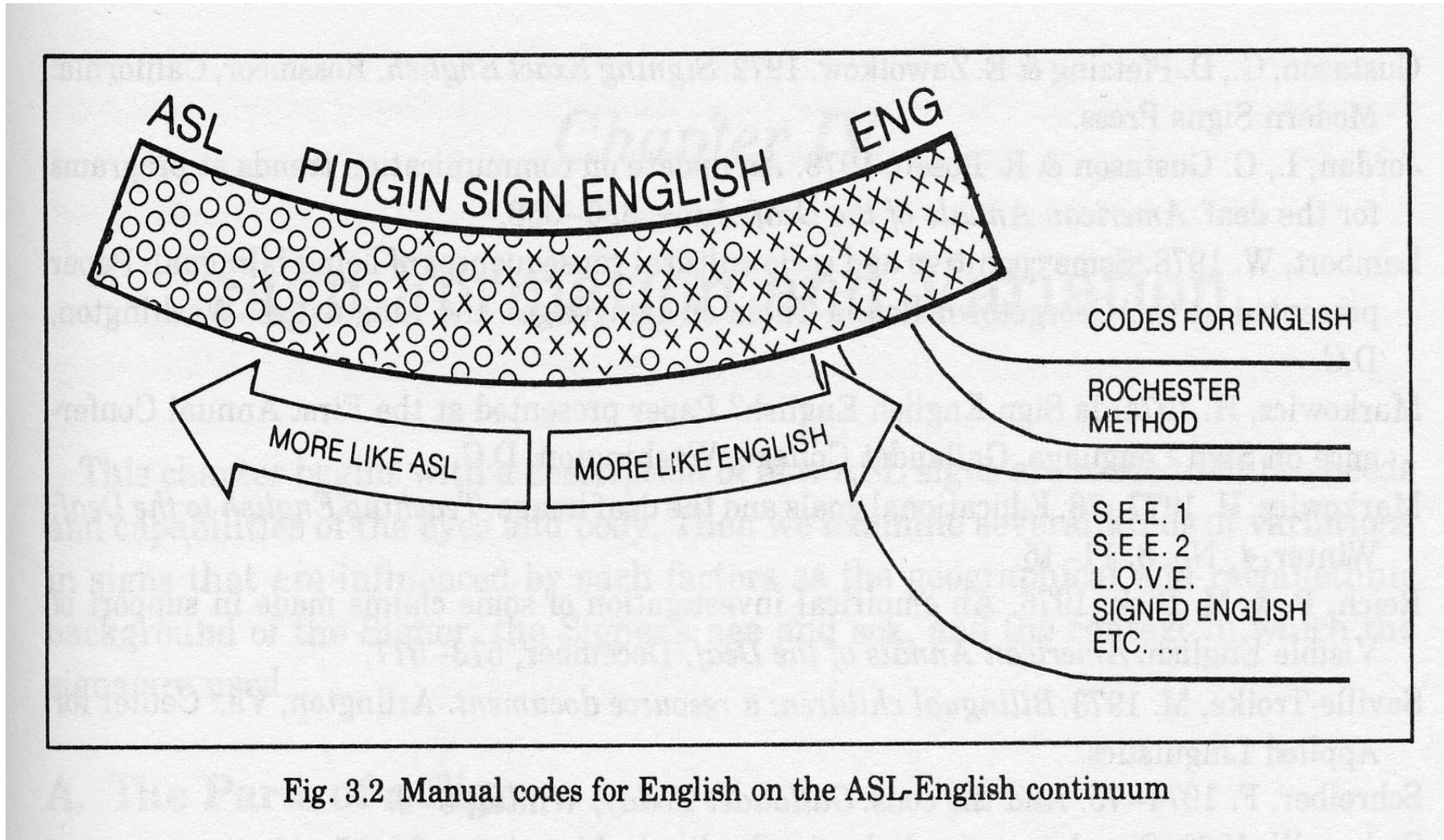Melchor de Yebra (Madrid 1593)

# Contact with Spoken Languages



Fig. 3.2 Manual codes for English on the ASL-English continuum

# What is not Sign Language?

- Manual codes meant for teaching of spoken language; grammar derived from spoken language to varying degrees
    - Paget-Gorman Sign System (GB)
    - Seeing Essential English
    - Français Signé, Sign-supported Dutch etc.

- What counts as a language? Intermediate systems as pidgins?

# Impact of Education on SLs
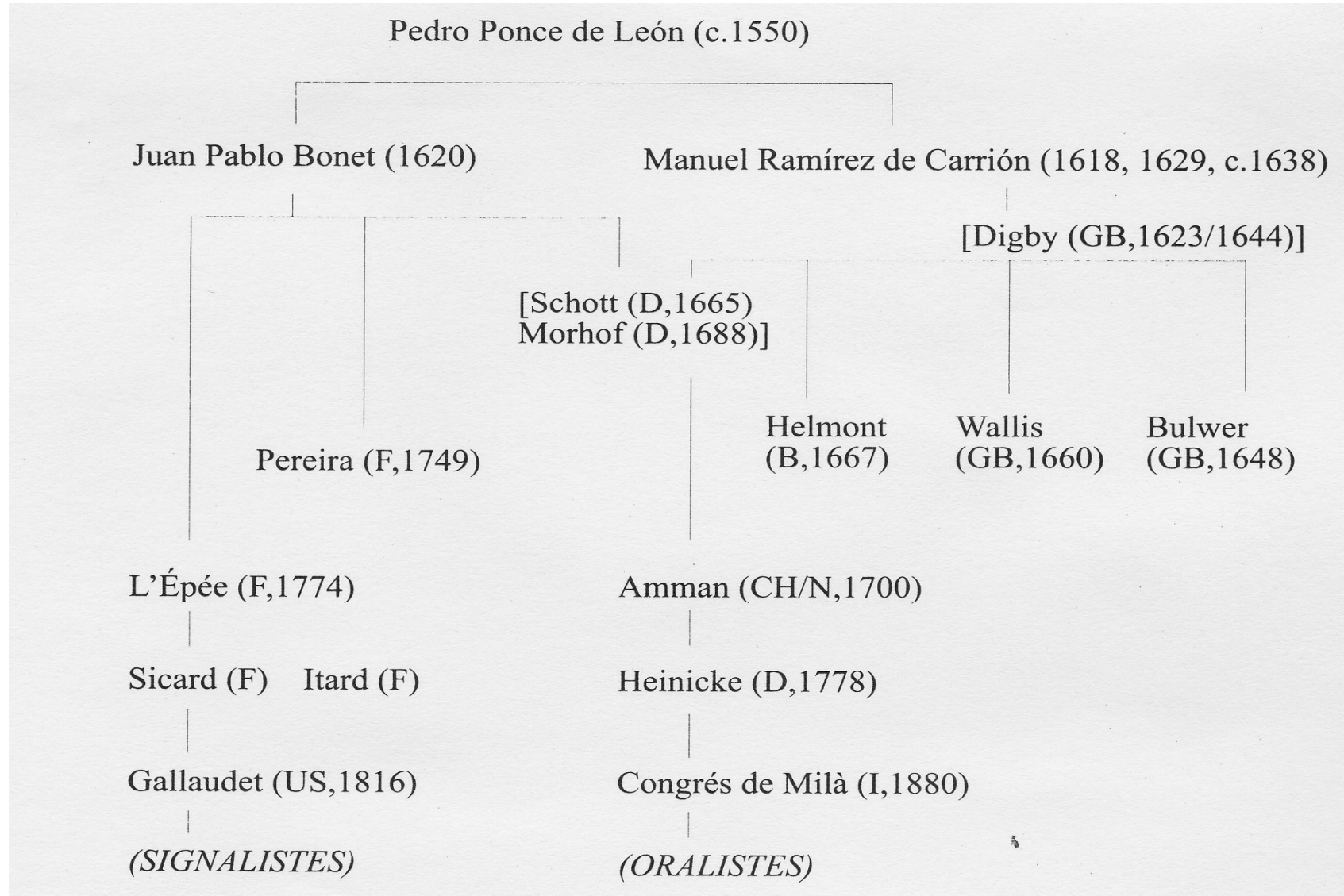
# Popular Misconception III

Sign languages are composed of illustrating gestures and resemble pantomime

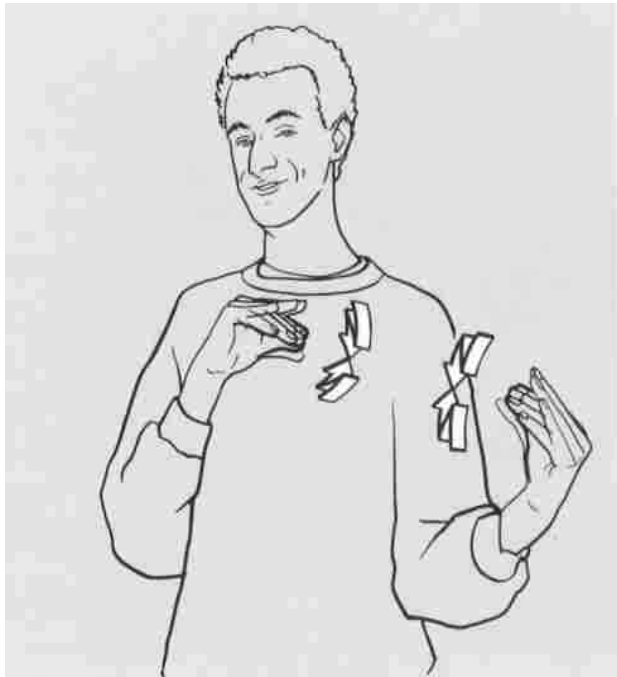# The Role of Iconicity



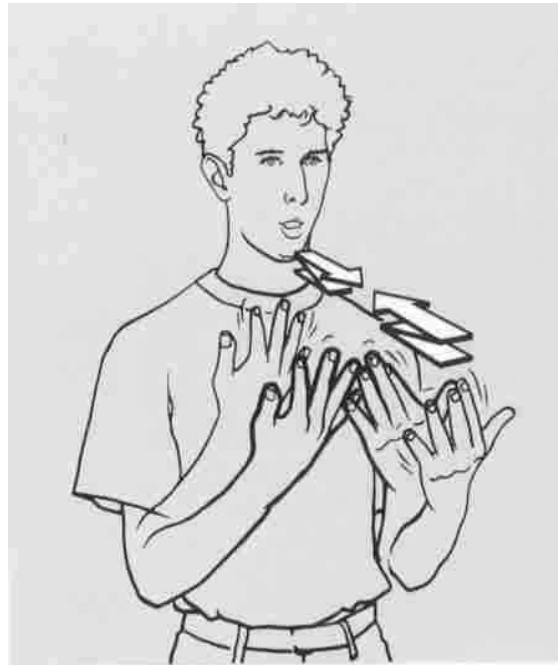Chinese Sign Language     Danish Sign Language     American Sign Language

'tree'

# The Role of Iconicity



LSF       NGT       ASL

'chat'

# Iconicity in Spoken Languages?

- Onomatopoeias:
  - kikeriki                           - waf-waf
  - kukeleku                        - wau-wau
  - cock-a-doodle-doo      - bow-wow

- Sound symbolism and phonosemantics

- Iconically motivated reduplication used for certain grammatical processes

# Iconicity in Sign Languages

- Iconicity at the lexical level (see above)
- Iconicity in morphology and morphosyntax: agreement, pronouns, use of reduplication
- Iconicity in syntax: facial expressions

- Potential for iconicity is far greater in SLs due to visual modality → languages are as iconic as they can be (Aronoff et al. 2005)

# Iconicity

- De Saussure: the linguistic sign is **arbitrary**

- In SLs, one or more of the parameters of a sign may be iconic (e.g. DAY vs. DRINK)

- Difference between iconic and transparent signs (e.g. COFFEE) (Klima & Bellugi 1979)



DAY          DRINK        COFFEE

# Sign Language Transcription

- Common use of gloss notation:

$$\overline{\text{\hspace{5cm}}}^{\text{top}}$$

$\text{POSS}_2$  BROTHER  $\text{INDEX}_{3a}$,

$$\overline{\text{\hspace{4cm}}}^{\text{neg}}$$

TOMORROW  $\text{INDEX}_1$  $_1\text{VISIT}_{3a}$  CAN^NOT

'Your brother, I cannot visit (him) tomorrow.'

- Much detail is lost: phonological form, simultaneity, complex non-manuals

# SL Transcription: Phonology



- HamNoSys:



- KOMVA:



- Stokoe notation:

**Ø G <^**

# SL Transcription: Morphology

- Turkish: *bil-mi-yor-um*
  know-NEG-PRES-1.SG
  'I don't know.'

- Sign language, e.g.

  TWO-PERSONS-REPEATEDLY-
  APPROACHING-EACH-OTHER

  $_2[CL_{long/thin}]_1$++
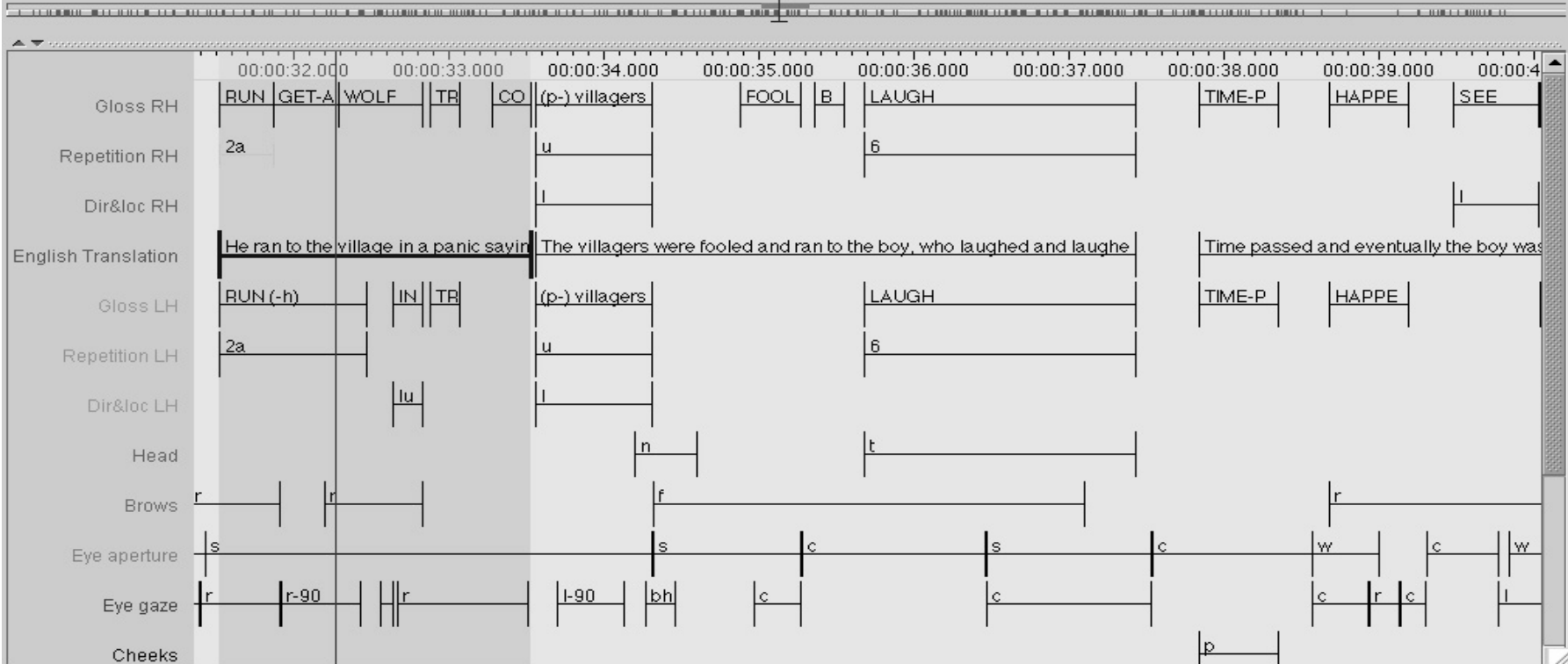
File   Edit   Search   View   Options   Help

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English Translation

There was a small boy whose job it was to tend sheep.  ·  While the sheep were left to graze, the shepherd boy would lie back and let his mind wander. He would become bored, fidget, and gaze about distractedly, wondering what to do with himself.  ·  It occurred to him that it would be a keen idea to play a trick on the villagers. He would raise the alarm, saying there was a wolf, and all the villagers would come running. Oh, it would be good!  ·  So the boy ran to the village in a panic shouting, "there's a wolf, help me, come quickly!"  ·  The villagers rushed to the scene but found nothing. The boy had fooled them and they were furious.  ·  The boy laughed heartily and the villagers left.  ·  Later, it happened again.  ·  Bored and distracted, the boy could see no reason not to fool the villiages again.  ·  He ran to the village in a panic saying, "hey, there's a wolf, it's true, come on!"  ·  The villagers were fooled and ran to the boy, who laughed and laughed.  ·  Time passed and eventually the boy was shocked to see a real wolf.  ·  The wolf's tongue was dangling from its mouth as it stalked and bit at the sheep.  ·  In a panic, the boy ran to the village shouting, "hey, there's a wolf!"  ·  But the villagers had been already been fooled twice and ignored him.  ·  "But it's true," insisted the boy, "there is a wolf!"  ·  Dejected, speechless, and full of worry, the boy returned to see the wolf eat his way through the whole flock so that in the end they were all dead. The boy could hardly believe what had happened.  ·  If you tell lies, people will believe you. You shouldn't tell lies. You really shouldn't.  ·

00:00:32.280

Selection: 00:00:31.525 - 00:00:33.535  2010

▷S   ✄   ←      ←   →   ↓   ↑      ☐ Selection Mode   ☐ Loop Mode

| | 00:00:32.000 | 00:00:33.000 | 00:00:34.000 | 00:00:35.000 | 00:00:36.000 | 00:00:37.000 | 00:00:38.000 | 00:00:39.000 | 00:00:4 |
|---|---|---|---|---|---|---|---|---|---|
| Gloss RH | RUN GET-A WOLF TR CO | (p-) villagers | | FOOL B LAUGH | | | TIME-P | HAPPE | SEE |
| Repetition RH | 2a | u | | 6 | | | | | |
| Dir&loc RH | | l | | | | | | | l |
| English Translation | He ran to the village in a panic sayin | The villagers were fooled and ran to the boy, who laughed and laughe | | | | Time passed and eventually the boy was |
| Gloss LH | RUN (-h) IN TR | (p-) villagers | | LAUGH | | | TIME-P | HAPPE | |
| Repetition LH | 2a | u | | 6 | | | | | |
| Dir&loc LH | lu | l | | | | | | | |
| Head | | | n | t | | | | | |
| Brows | r   r | | f | | | | r | | |
| Eye aperture | s | s | c | s | c | w | c | w |
| Eye gaze | r r-90 r | l-90 bh | c | c | | c r c | l |
| Cheeks | | | | p | | | | | |

# Structural complexity

- Phonology
- Morphology
- Lexicon
- Syntax
- Semantics
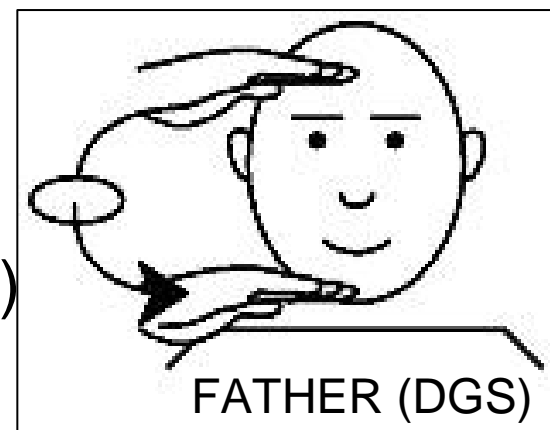- Discourse

# Phonology

# Articulators



zijaanzicht

vooraanzicht
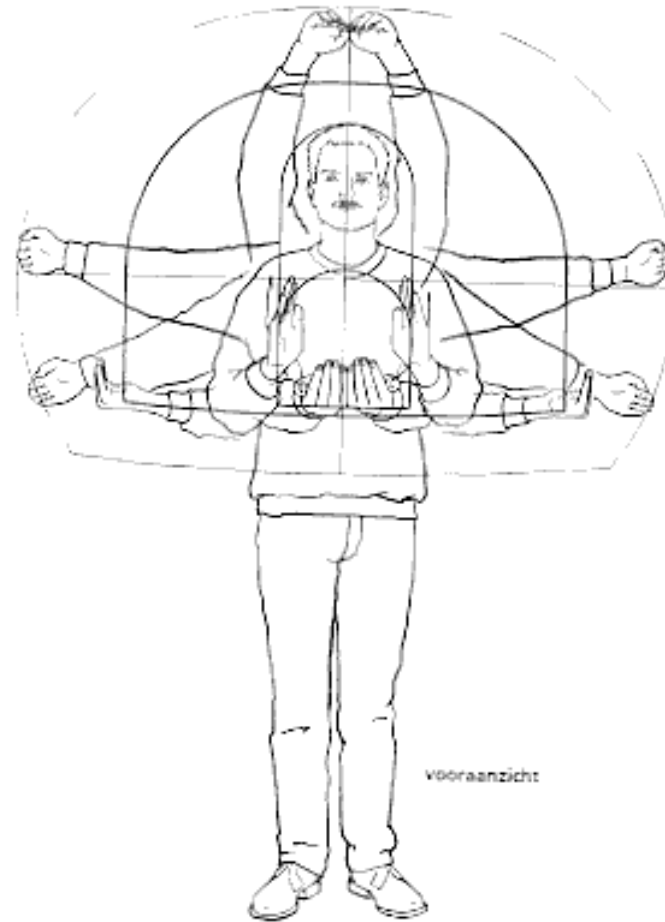
# Segments in Sign Languages

- Just like spoken words, signs have internal structure; they consist of a combination of:

  1. at least one **handshape**
  2. at least one **orientation**
  3. at least one **location**
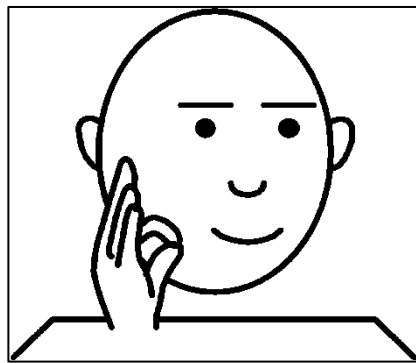  [4.  **movement** (possibly repeated)
  [5.  a **non-manual** component]

  FATHER (DGS)

- Signs may be lexically underspecified for one or more of these components; at the surface, at least 1–3 must be specified

# Evidence: Minimal Pairs

- English: *tip – lip – dip – hip* etc.
    $\rightarrow$ phoneme status of distinctive element

- SL of the Netherlands (NGT): handshape
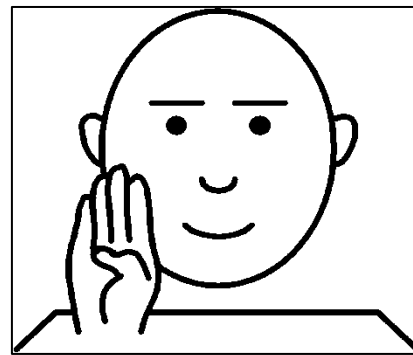


LIVE                    HOLIDAY

# Phonological features (LSC)

- Handshape:
  - PLEASE vs. MORNING
- Place of articulation:
  - ASK vs. REMEMBER
- Movement:
  - WAIT vs. AUGUST/CHEESE
- Orientation:
  - STUDENT vs. TEACHER
- Nonmanuals:
  - TOO-MUCH vs. DISGUST

# Simultaneity vs. Sequentiality

- Stokoe (1960) stresses the fact that – in contrast to spoken languages – segments in sign languages combine simultaneously

- Later research found that there is also sequential structure in signs (e.g. Liddell 1984; Sandler 1989)

- Signs are sequentially segmentable into locations and movements: L-M-L

- Movement is taken to define a syllable

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# A Feature Hierarchy for Handshape
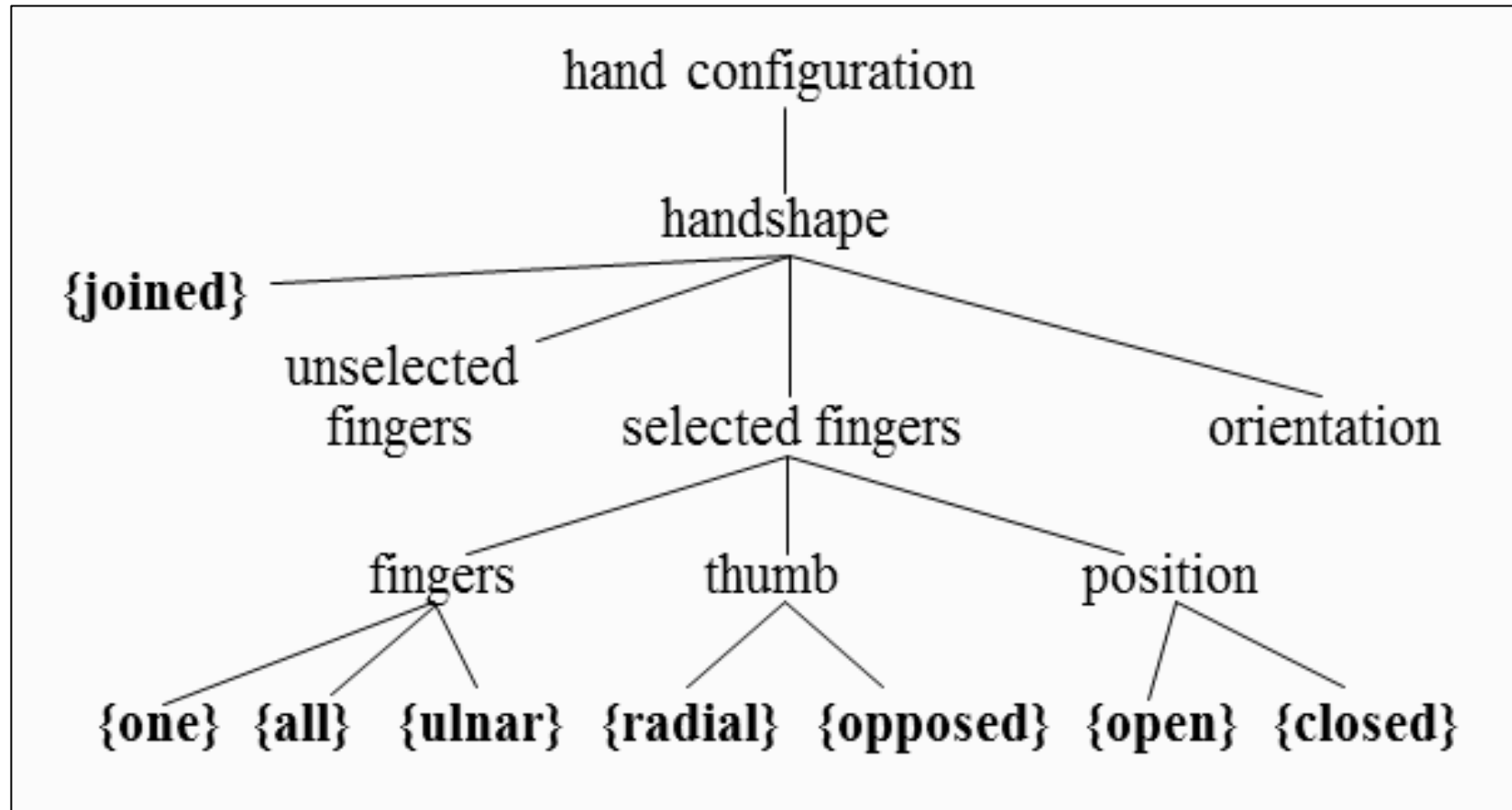


(Sandler & Lillo-Martin 2006)

# A Feature Hierarchy for Handshape
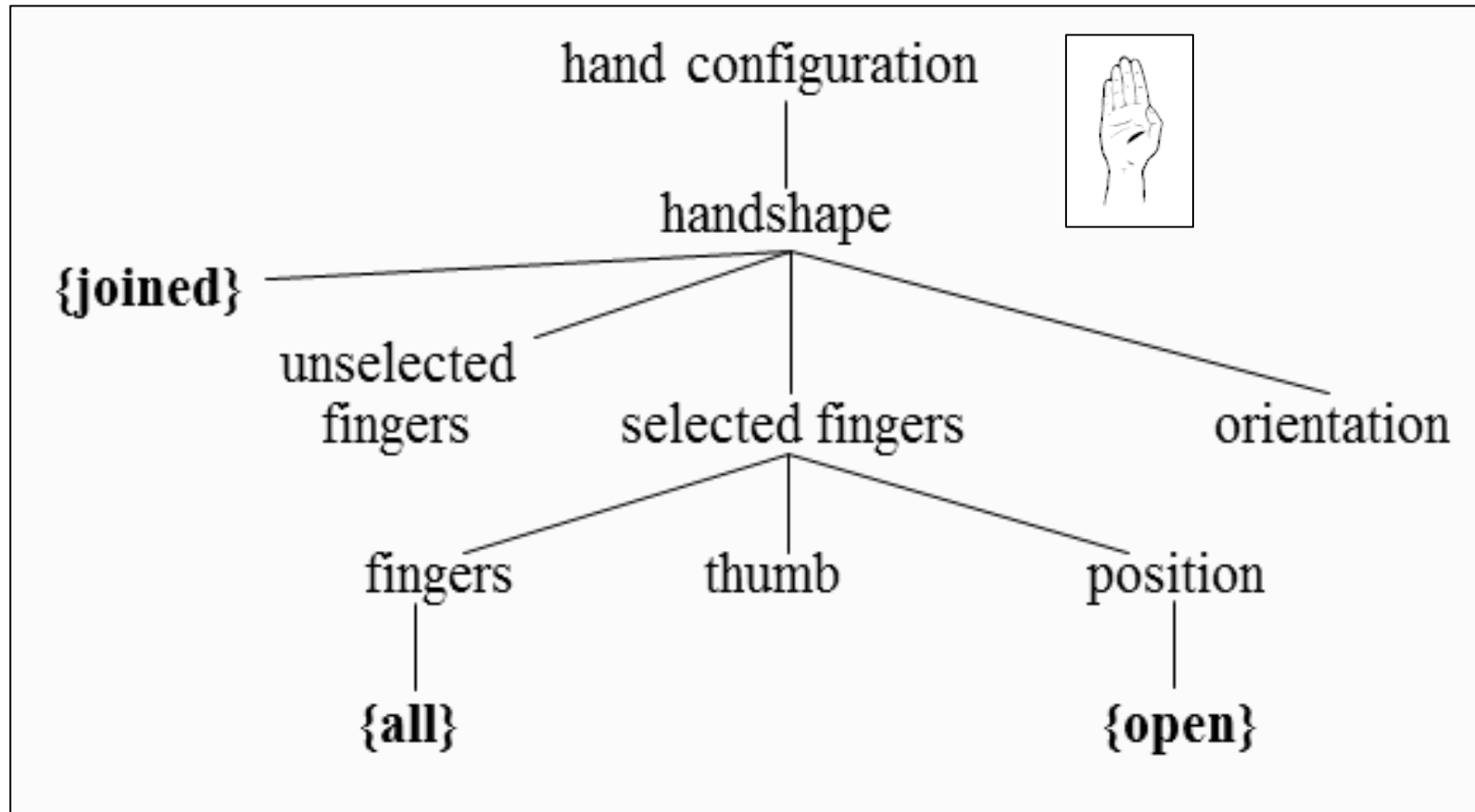
# Markedness

- The more features are necessary to describe a handshape, the more marked it is.

- Unmarked handshapes

  - are more frequent within and across SLs

  - are maximally distinct among themselves
  - are the easiest to articulate motorically
  - are the first to be acquired by children
  - can appear on the non-dominant hand in two-handed signs with different handshapes

  - are those with which aphasics make fewest errors.

# Phonological Constraints

- **Selected finger constraint**: There can be no sign in which selected fingers are in different positions (Sandler 1989; Brentari 1998) → 'selected fingers' dominates 'position'

- **Handshape change constraint:** In signs with a handshape change, selected fingers remain constant → handshape change = change in position

- Exceptions: compounds, fingerspelling

# Phonemic Handshapes

- Existence of allophonic handshapes: free variation and complementary distribution; e.g.
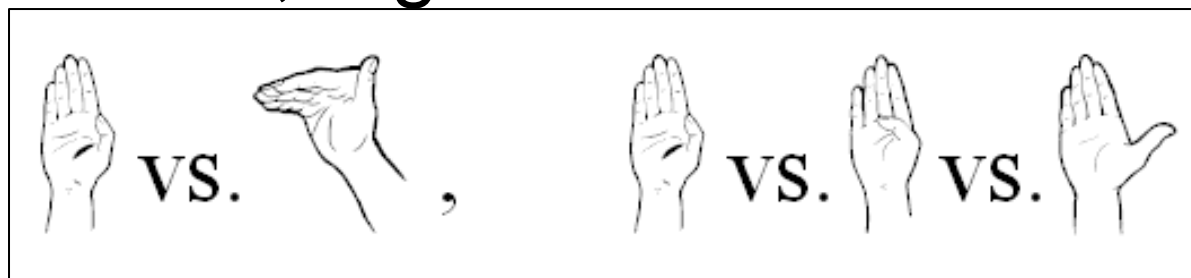


- Variation: SL of the Netherlands (NGT) has 31 phonemic handshapes while Adamorobe SL has only 7 (Van der Kooij 2002; Nyst 2007)

# Location

- Distinction between place and *setting*: there can only be one place per morpheme (*major body location*) but setting can change
- **Place** features: [head], [trunk], [arm], [H2]
- **Setting** features: [hi], [lo], [ipsi], [contra], [proximal], [distal], [contact]
- Setting features can be in a dominance relation with each other

# Two-handed Signs
## (Battison 1978)

- **Type 1:** both hands move and are specified for the same handshape

  balanced signs

- **Type 2:** only the dominant hand moves but both hands have the same handshape

  unbalanced signs; H2 is place of articulation

- **Type 3:** only the dominant hand moves but both hands have different handshapes

# Constraints on Two-handed Signs

- **Symmetry Condition:** If both hands move independently during the articulation of a sign, then they must be specified for the same movement, handshape, and location

- **Dominance Condition:** If the two hands do not have the same specification for handshape, then one hand must be passive (i.e. not moving); moreover, the non-dominant hand is restricted to a small set of (unmarked) handshapes

# Movement

- **Path** movement: lexical; displacement of hand in space
- **Hand-internal** movement: lexical; secondary movement or handshape change
- **Transitional** movement: non-lexical
- Some researchers argue that signs are not well-formed without movement

# Non-manuals

- Signs may be lexically specified for certain head or body positions or facial expressions

- Moreover, in some SLs, the use of **mouthings** is common; silent articulation of (part of) the corresponding spoken word → minimal pairs (Boyes Braem & Sutton-Spence 2001; Pfau & Quer 2010)



The signs for BLACK (a), WHITE (b), and RED (c) in Adamorobe Sign Language (Nyst 2007)

# Segments in Speech Errors
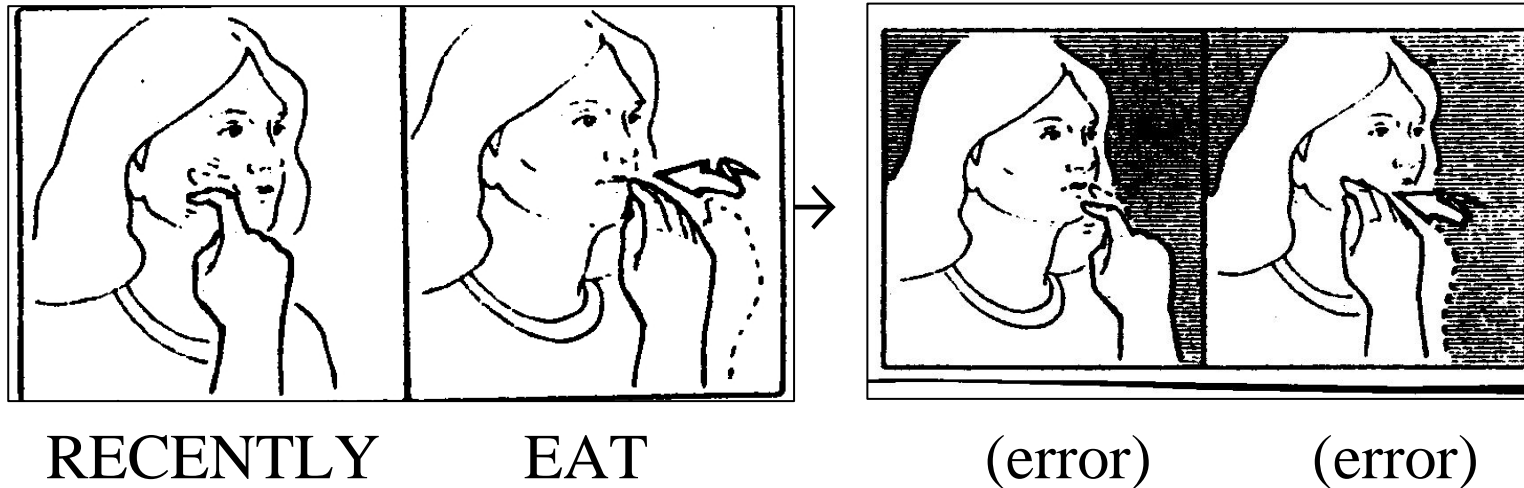
- DGS handshape anticipation



HIS/HER    PARENTS        (error)    PARENTS
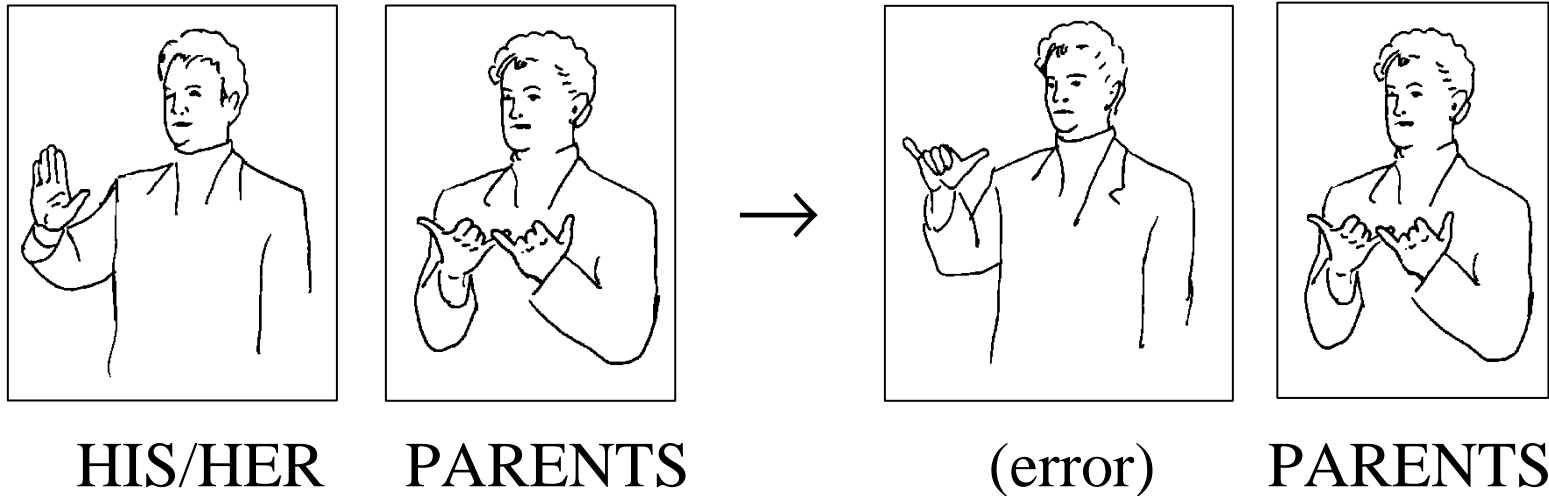
- Cf. English consonant anticipation
  *some funny kind* → *some **k**unny kind*

# Segments in Speech Errors

- ASL location exchange



RECENTLY          EAT                    (error)          (error)

- Cf. English consonant exchange

  *a pitch fork* → *a **f**itch **p**ork*

# Segments in speech errors



PLEASE    HELP

PLEASE    error

FEEL    THAT

error    THAT
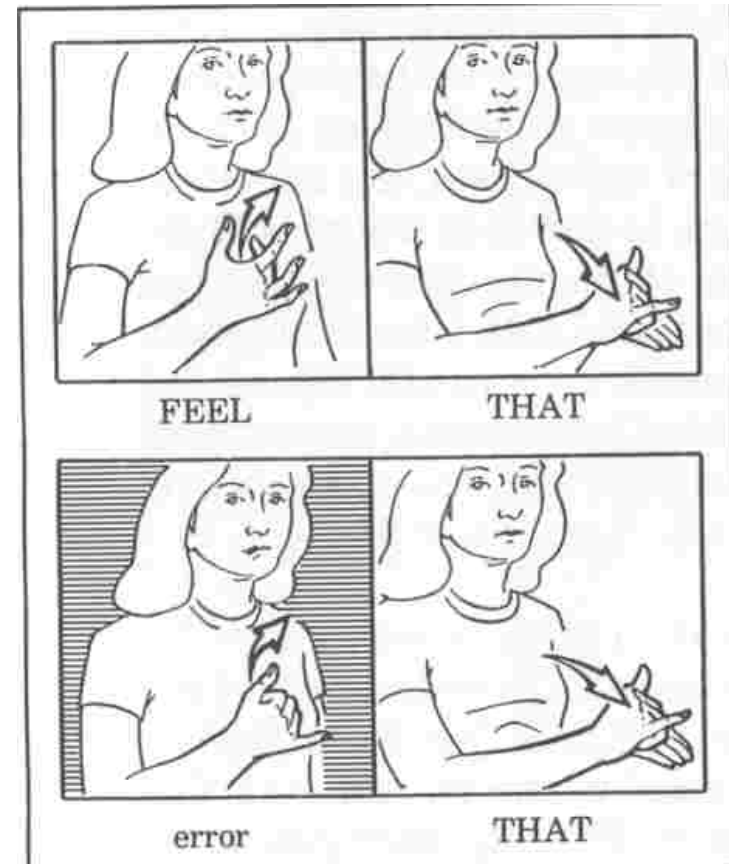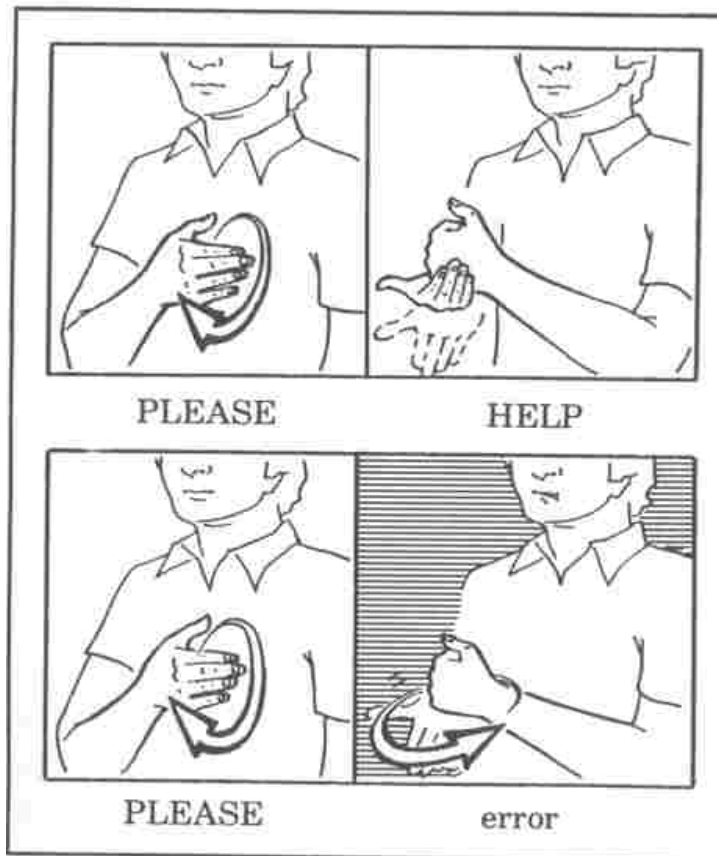
**ASL**

# Syllables

- M and P are the two basic segment types in ASL; they combine to form well-formed syllables

- Syllable types: PMP, MP, PM, M, P

- Each syllable has a nucleus; P can be a nucleus only when no M is present

- Ms correspond to vowels and Ps to consonants (relative sonority)

# Syllable: Secondary Ms

- Movements of the fingers or wrist

- SMs –wiggling and circling- can occur either on an M or on a P

- Striking contrast between Ms/Ps:

  M can always have SM, while P cannot when adjacent to an M.

- Segment sequences (OK = SM is possible on that segment):   a) $[*]_P [OK]_M [*]_P$  b) $[OK]_M [*]_P$
c) $[*]_P [OK]_M$ d) $[OK]_M$  e) $[OK]_P$

# Syllable structure and sonority

- The distribution of SM can be accounted for in terms of syllable structure

- The segment sequences in a) – e) are ASL syllables

- SM features can only occur on the nucleus of an ASL syllable

- In SLs, Ms are more sonorous than Ps (abstract notion of sonority: perspicuity)

# Handshape changes

- Like SM, handshape changes (HCh) can occur on an M or on a P

- Like SM, HCh can occur only on the nucleus of a syllable

- Well-formed syllables (in ASL): PMP, PM, MP, M, and P, but not *PP

- Moreover: P-syllables in ASL are only well-formed if they contain either SM or HCh