

American Sign Language Phonetics and Phonology

LING 200

Spring 2006

Overview

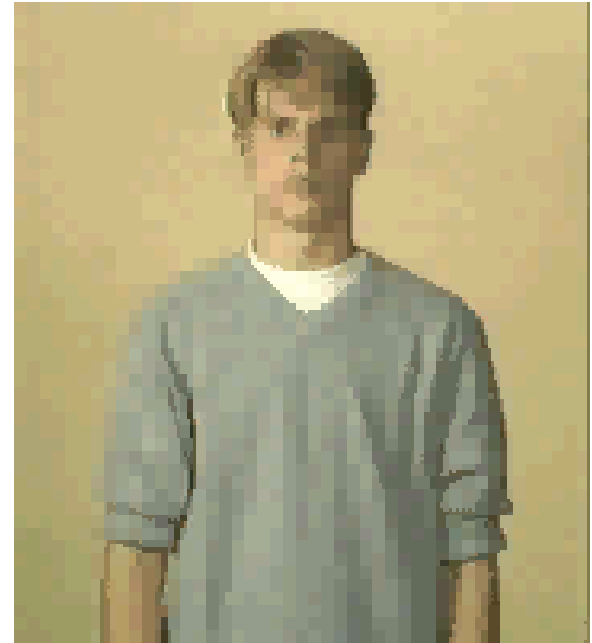
- Sign languages: general characteristics
- American Sign Language and other sign languages
- Iconicity vs. arbitrariness
- Phonetic dimensions of ASL
- Iconicity vs. phonology

Sign languages in *Ethnologue*

- *Ethnologue* lists 121 sign languages
(incomplete list)
(http://www.ethnologue.com/show_family.asp?subid=90008)

What is a sign?

- Sign in sign languages \approx word in spoken languages
- Traditionally, signs are referred to (in English) by translation (gloss) of sign
- Translation conventionally given in capital letters
 - CAT



American Sign Language

- The preferred language of the Deaf community of the US and Canada
 - deaf vs. Deaf
- Has dialects
 - rural south ASL is most divergent
- Usually learned from
 - peers at residential schools
 - adult members of the Deaf community

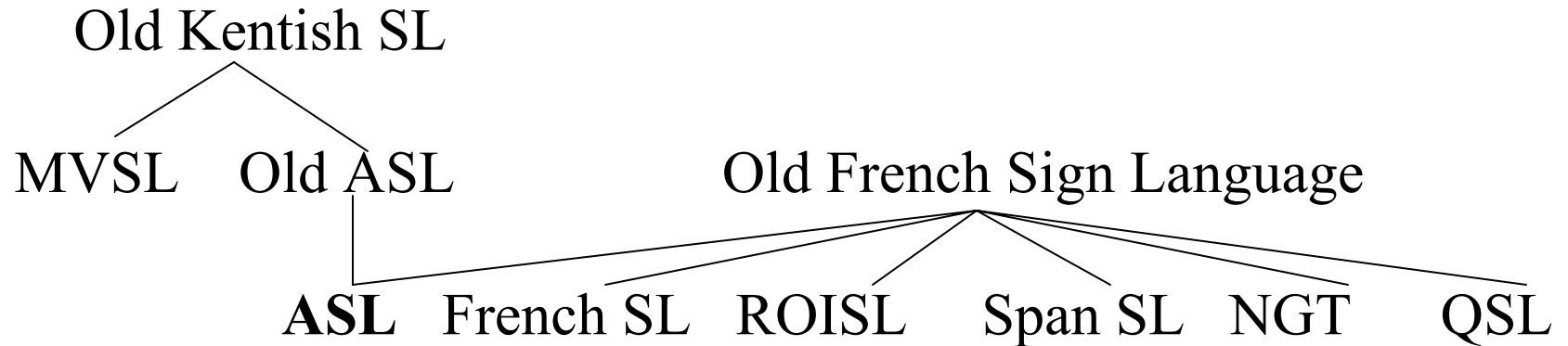
Characteristics of sign languages

- Human languages (including ASL) compared to some other communication systems
- A clip from Clayton Valli and Ceil Lucas, *Linguistics of American Sign Language*. 2nd ed. (The signer is Clayton Valli.)

Sign language families

- Signed languages are not signed versions of spoken languages
- The sign language of an area does not belong to the same family of languages as the spoken language of that area
- Signed languages can be grouped into historical families
- Families of spoken languages \neq families of sign languages

American Sign Language and related languages



ASL = American Sign Language

MVSL = Martha's Vineyard Sign Language

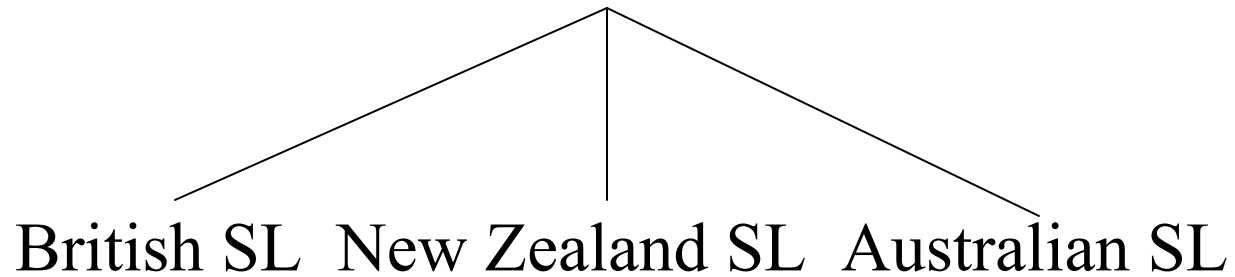
NGT = Dutch Sign Language

ROISL = Republic of Ireland Sign Language

QSL = Quebec Sign Language

Old French SL: attested 300 years ago

Other families of sign languages



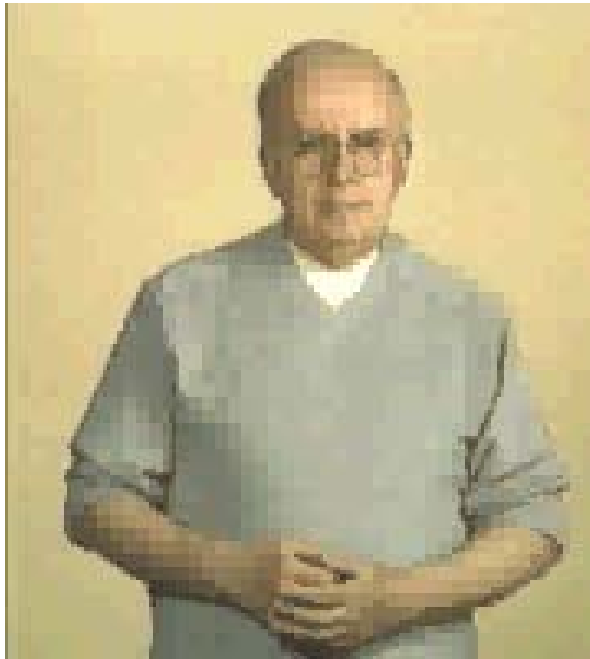
Iconicity in spoken language

- Sound ↔ meaning
 - arbitrary, non-iconic
 - [hɛr] ‘hair’ vs. ‘hare’
- Onomatopoeia (sound imitating environment)
 - to neigh, meow, mew, bark, woof, moo, oink, etc.
 - But cross-linguistic differences:
 - [bark] ‘bark’
 - Tsek’ene [yɑht^hič], Witsuwit’en [yɑts^hɛ] ‘it’s barking’

Iconicity in signed languages

Is sign language pantomime?

The iconicity issue



EYE

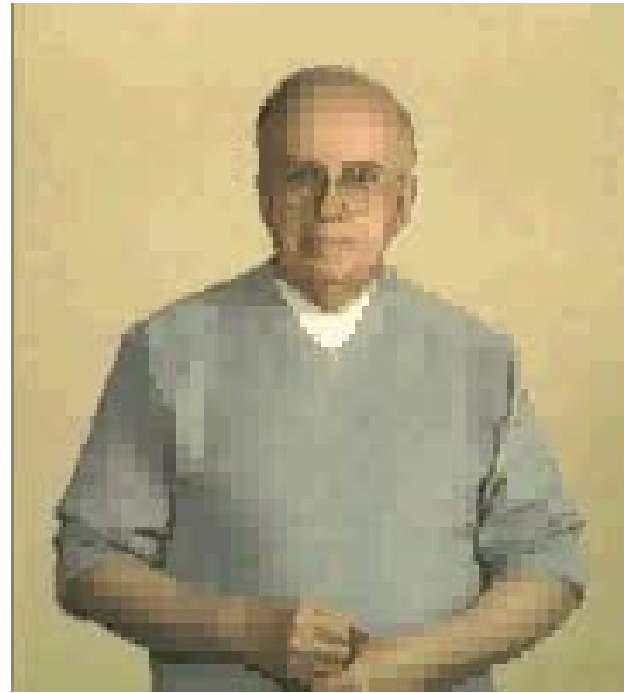


BLACK

Historically iconic signs



MILK



COFFEE

Differences between sign languages

- TREE in ASL vs.
Chinese SL
- BREAD in ASL vs.
French SL



Phonetic dimensions of ASL

- Signs are not random combinations of gestures
- Signs differ along certain phonetic parameters

Phonetic dimensions of ASL

- Parameters
 - handshape
 - location
 - movement
 - orientation
 - number of hands
 - non-manual expression
- Values of parameters realized simultaneously
- In some signs, a parameter may have two or more values (sequenced)

One- vs. two-handed signs

- Some signs articulated with one hand only
 - strong or dominant hand
- Some signs articulated with two hands
 - weak or non-dominant hand is restricted

Handshape

Some different handshapes (different from those listed on p. 266)



TEN

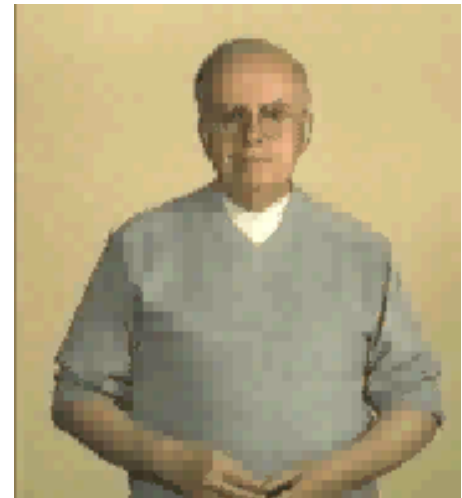


FLY

Handshape

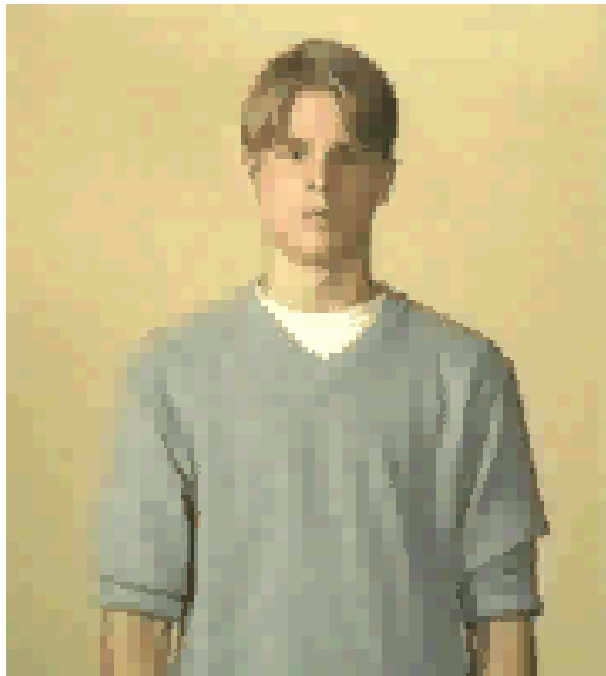


MOTHER
(5 hand)

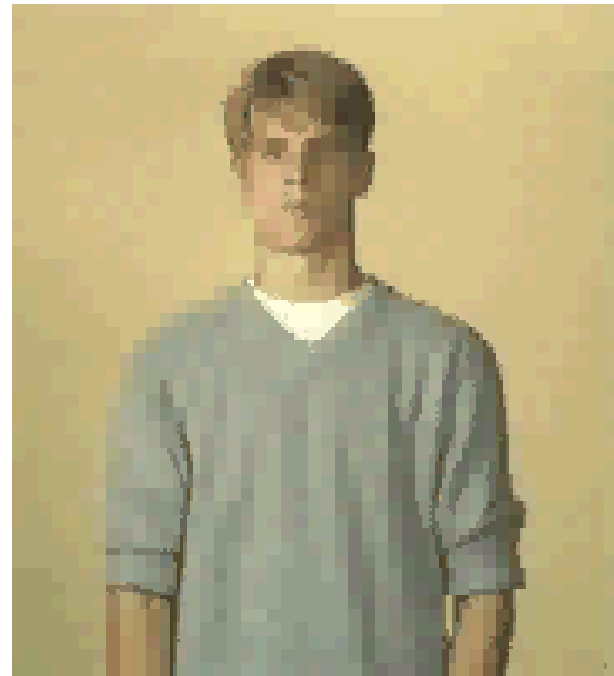


BOY (2 variants)

Signs which change handshape



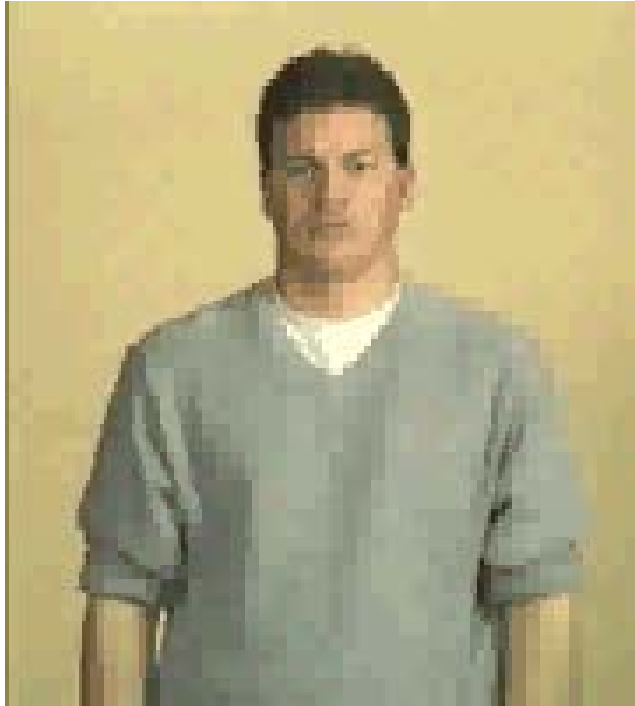
UNDERSTAND



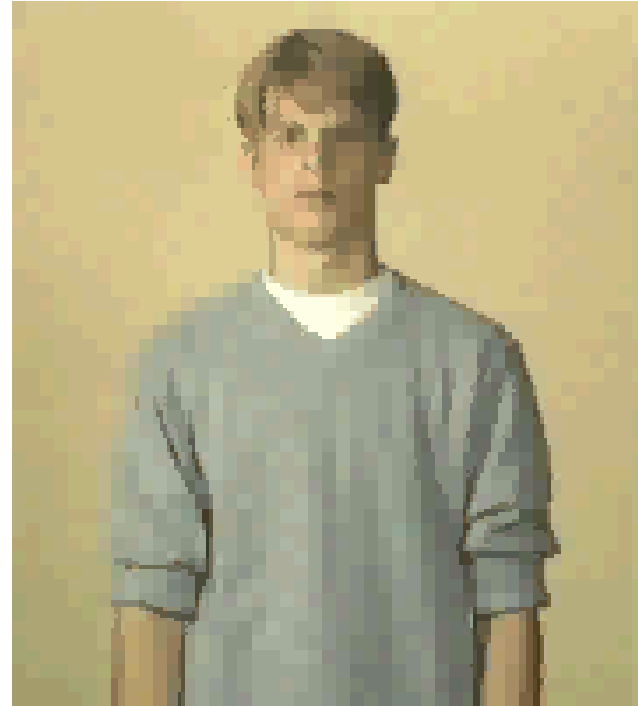
DIVORCED

HOW MANY? [http://commtechlab.msu.edu
/sites/aslweb/browser.htm](http://commtechlab.msu.edu/sites/aslweb/browser.htm)

Minimal pairs for handshape



PEOPLE



BICYCLE

Minimal pairs for handshape

- SEATTLE vs. NEUTRAL vs. TWIN
- NUMBER vs. INTERPRET
- DORM vs. DEAF
- RED vs. CUTE

Orientation

- Palm of hand faces some direction



ACROSS

Sign with change in orientation



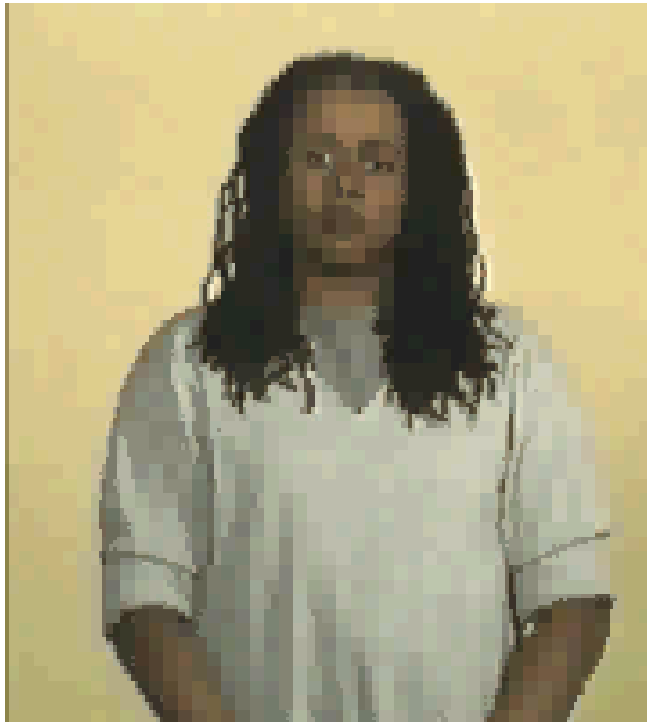
DEATH



BOOK

also COMMUNITY, CLASS

Near-minimal pairs for orientation



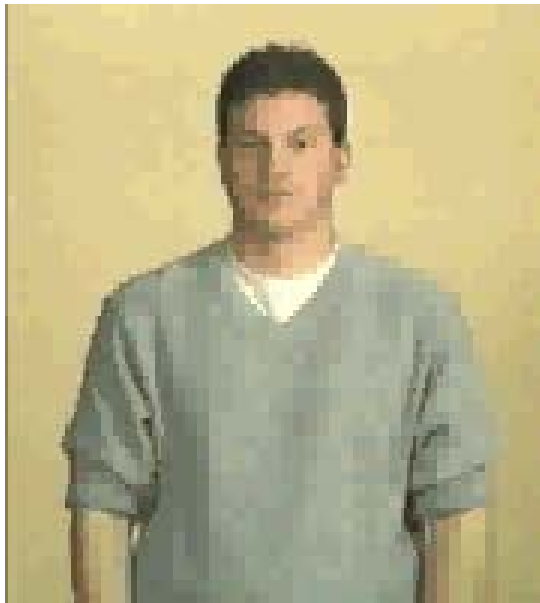
YOUR



CHILD

vs. MY

Minimal pair for orientation



NAME



SIT

Minimal pair for orientation



vs. TRAIN

SHORT



vs. STAR

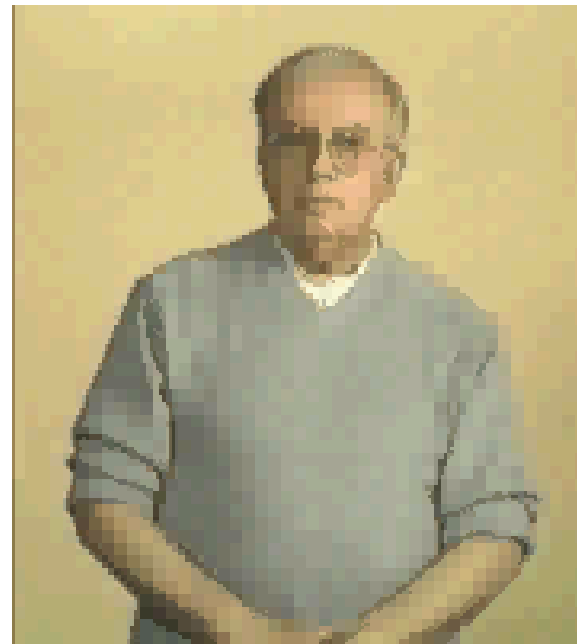
SOCK

Location

on parts of face



FUNNY



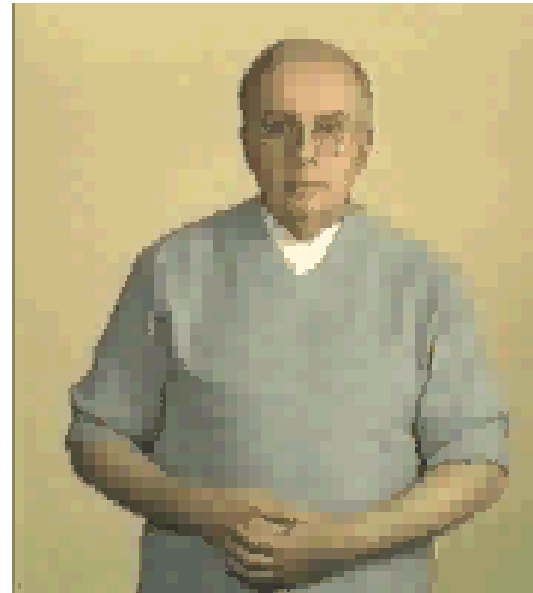
WATER

Location

on leg or arm



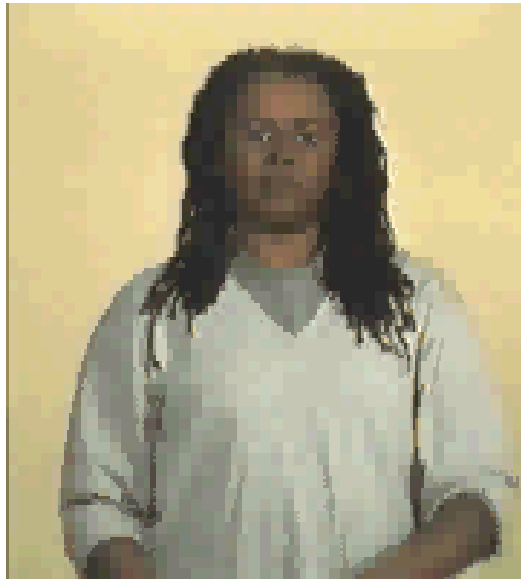
DOG



HOSPITAL

Location

neutral space



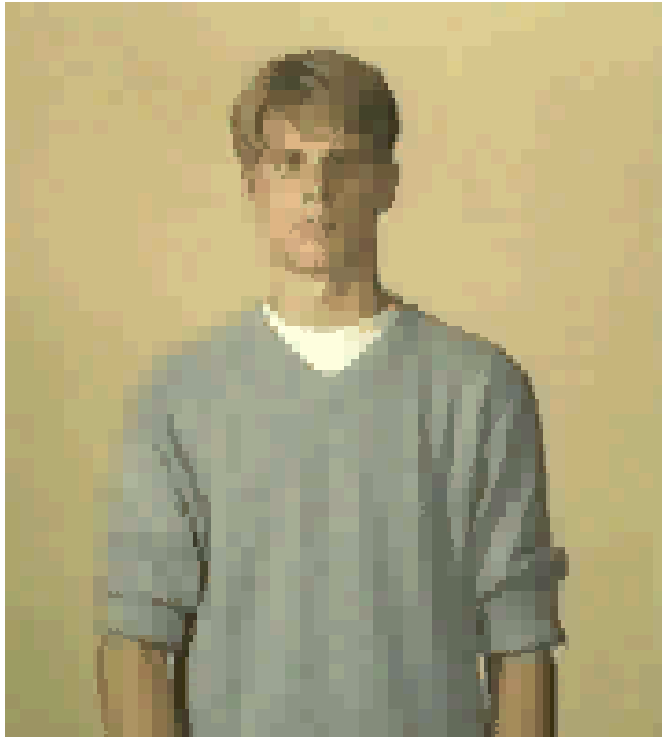
CAR

weak hand

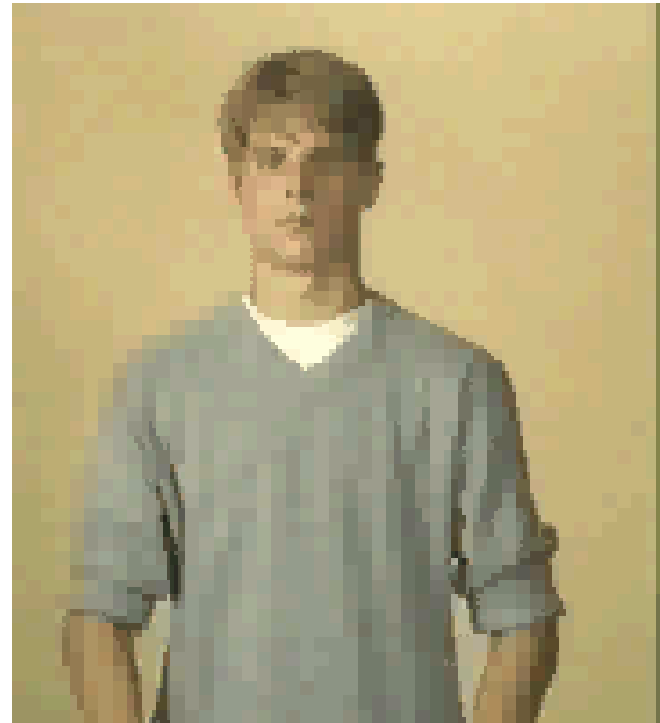


STAND

Signs with change in location



DEAF



FUN

Signs with change in location



KING



YESTERDAY



BLUE

Minimal pair for location



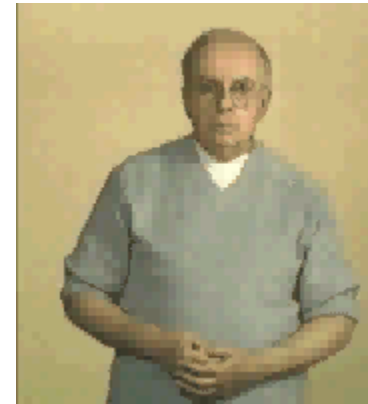
SUMMER

DRY

Near-minimal pair for location



APPLE



ONION

Movement

- Some different types of movement
 - hooked
 - linear



PERCENT



SEPARATE(D)

Movement

nodding

looping

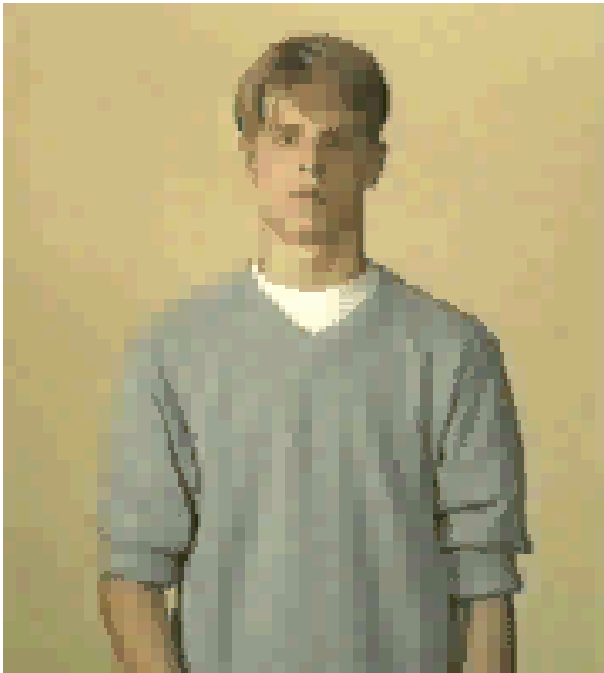


WASHINGTON (STATE)

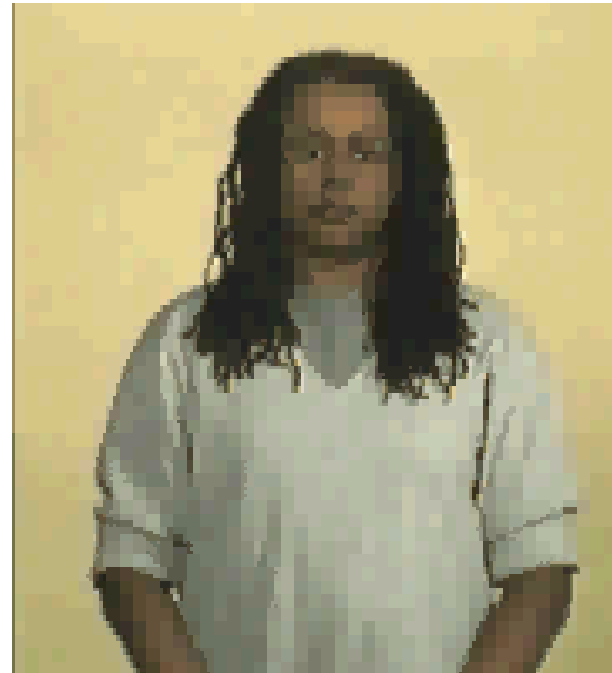
YES

“Local” or “internal” movement

movement at elbow or wrist joint, and/or finger wiggling



COLOR



WHERE?

Minimal pair for movement



FLY

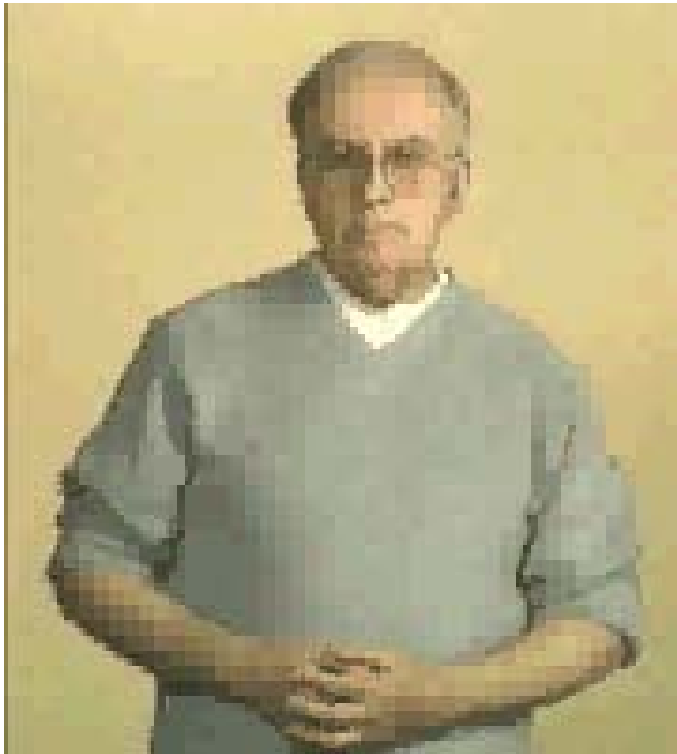


AIRPLANE

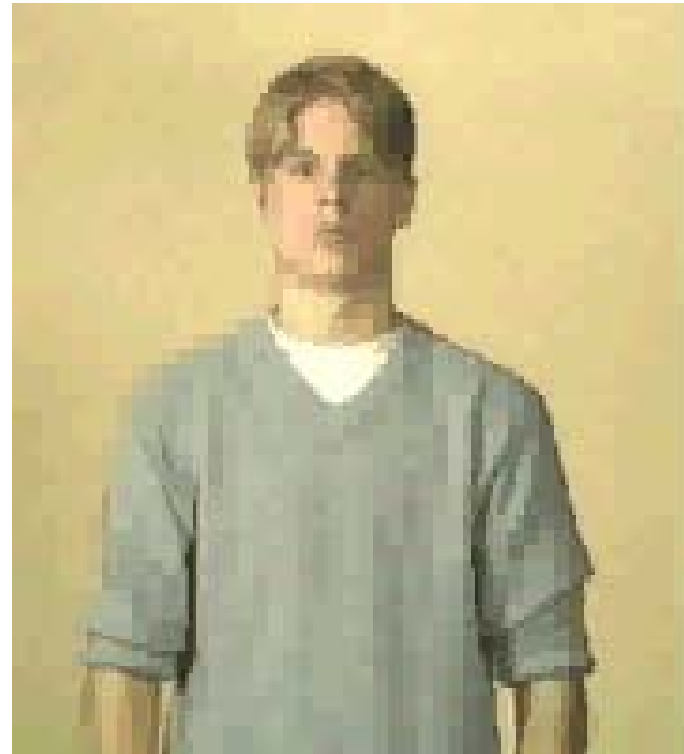
More minimal pairs for movement

- SIT vs. CHAIR
- WINDOW vs. OPEN-WINDOW
- MACHINE vs. ROOMMATE vs. GRAY vs. AMERICA
- PAPER vs. SCHOOL
- RIDE vs. RIDE-HORSE
- OLD vs. ORANGE
- TURN-AROUND vs. SINGLE
- BROWN vs. BEER

Near-minimal pair for movement



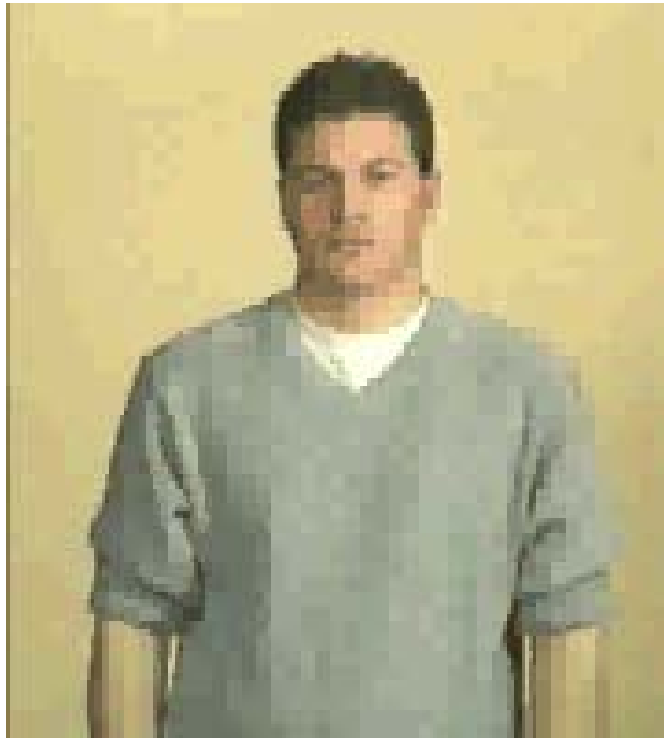
PRINT



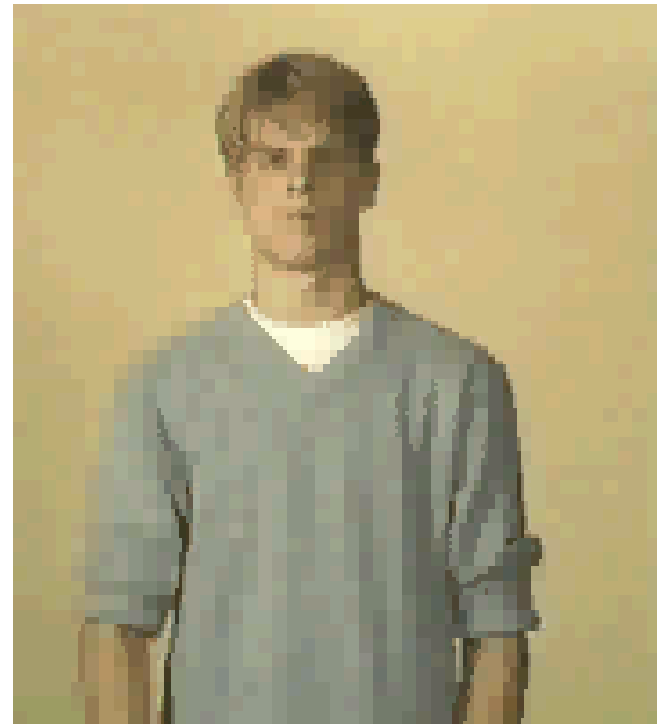
NEWSPAPER

Number of hands

- Some one-handed signs



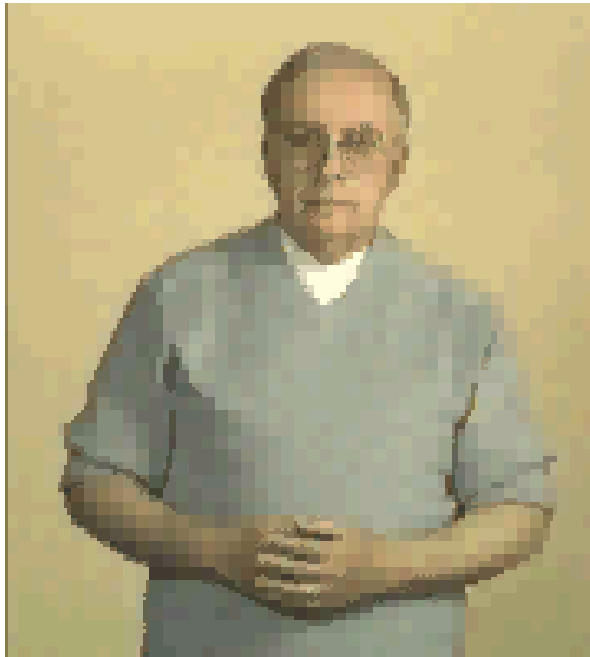
MOTHER



FATHER

Number of hands

- Some two-handed signs

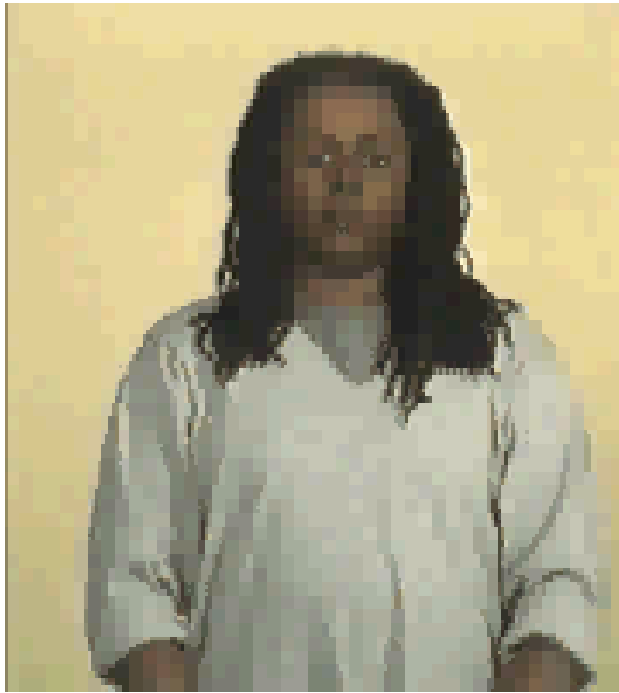


HERE

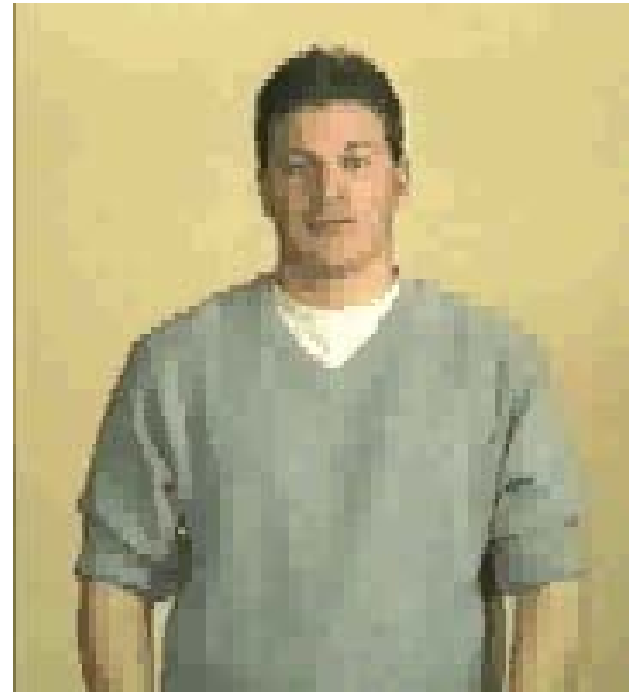


BICYCLE

Two-handed signs



DOOR



COOL (v.)

Minimal pairs for one- vs. two- handed signs



PARTY



PEOPLE

vs. PURPLE

Minimal pair for one- vs. two- handed



TEACH

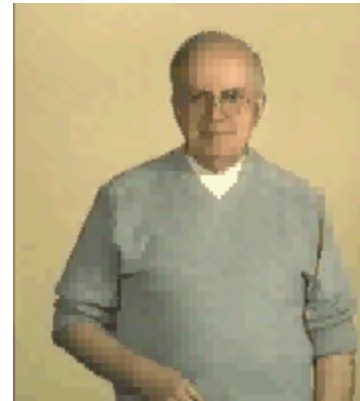
BOY

Non-manual expressions

- Signs articulated which include non-manual expression
 - OH-I-SEE
 - PROSTITUTE

Body shift/lean

movement of body part other than hands



YES

BED

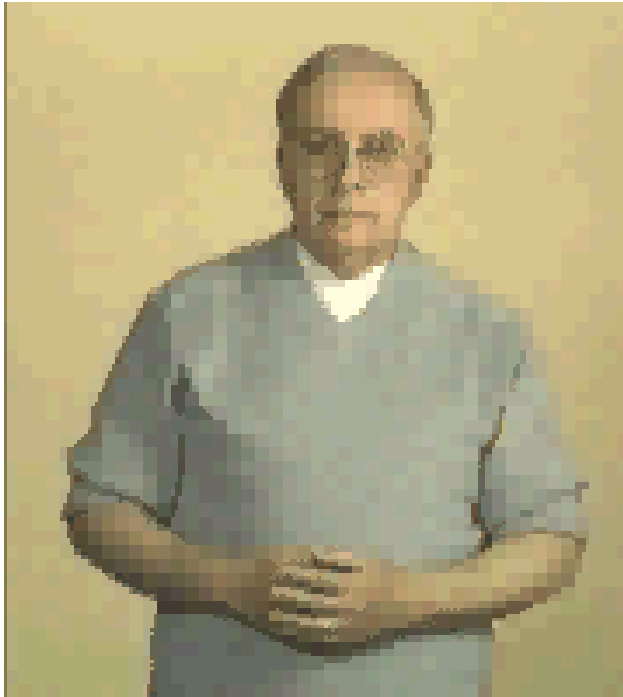
Minimal pair for non-manual expression



NOT-YET

LATE

Minimal pairs for non-manual expressions



HERE



WHAT?

Sign language transcription

- Different transcription systems
 - Sign Writing: www.signwriting.org
 - Hamburg Sign Language Notation System (HamNoSys): <http://www.sign-lang.uni-hamburg.de/projects/HamNoSys.html>
- Unlike transcription of spoken languages, none in widespread use

Iconicity vs. phonology

‘For sign languages, a phonology systematically separates the set of gestures which may represent meanings in a given sign language from the entire range of gestures which may be produced by the human body...iconicity is inversely related to phonological...structure. This is because an iconic relation is a direct analog mapping between some aspect(s) of a sign and some aspect(s) of its referent, with no regard to the way other signs are made. For a phonology, however, relations between the form of signs is everything.’ (Battison 1974:2)

The Symmetry Condition

- A restriction on two-handed signs (first identified by Battison 1974)
 - ‘if both hands move independently during a given two-handed sign...then the specifications for handshape and movement must be identical and the orientations must be either identical or polar opposites (reciprocals). Locations...must also be specified either as symmetrical or as polar opposites.’
 - both hands move, handshapes identical, opposite orientations, symmetrical locations: DIE/DEAD/DEATH



If handshapes not identical

- If handshapes not identical, both hands cannot move
 - Different handshapes, only one hand moves:
DRAW

Phonology vs. iconicity

- Phonology: specification of a template which all signs (or spoken language units) must conform to in a particular language
 - ASL phonological template includes Symmetry Condition (among other restrictions)
 - signs resemble other signs in some arbitrary way
- Iconicity: a sign (or spoken language unit) should resemble what it refers to
 - not other signs