**One hand or two:**
A cross-linguistic analysis of the non-native lexicon in signed languages

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**Sociolinguistics of Borrowing**
- All languages borrow from each other
- Heavy contact results in heavy borrowing
- Signed languages with surrounding spoken languages
  - Mouthing
  - Fingerspelling
- Non-native lexicon: based on elements from fingerspelling
- Effects of one-handed vs. two-handed system?

**ASL & BANZSL**
- American Sign Language (ASL)
  - Used in US and parts of Canada
- British Sign Language family (BANZSL)
  - Includes:
    - British Sign Language (BSL)
    - Australian Sign Language (Auslan)
    - New Zealand Sign Language (NZSL)
Fingerspelling in ASL

- One-handed
- The hand takes on different shapes to show different letters
- Letters are identified mostly by handshape, but in a few cases by movement or orientation

Fingerspelling in BANZSL

- Two-handed
- Dominant hand contacts locations on the non-dominant hand
- The non-dominant hand and fingers move to facilitate contact
- Letters are distinguished by handshape, location, and orientation (and in two cases by movement)

Fingerspelling & non-native lexicon

- Fingerspelled words
  - Sequence of fingerspelled letters
- Signs in the non-native lexicon
  - Contain fingerspelled elements
  - Constraints on non-native signs?
Constraints on native signs

• Phonological constraints on signs in the native lexicon
  – Maximum of two distinct movements per lexical sign (Brentari, 1998; Sandler, 1993)
  – Maximum of two locations per sign (Sandler, 1989)
  – Maximum of one handshape change per monomorphemic sign (Battison, 1978; Sandler, 1989)
    • One set of selected fingers per morpheme (Mandel, 1981; Sandler, 1989)
    • Selected fingers: “Those fingers that are able to move or contact the body during the course of executing a sign” (Brentari & Padden 2001)

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Constraints on non-native signs

• Brentari & Padden (2001)
  – Typology of non-native vocabulary in ASL, based largely on Battison (1978)
    • Initialised signs
    • Abbreviation signs
    • Loan signs
  – B&P propose their own model of the non-native lexicon of ASL based on above types (among others) + phonological constraints (specifically handshape)

Initialised signs

• In initialised signs, “the handshape of a native sign is replaced with one corresponding to the first letter of an English translation” (Frishberg & Gough 1973, cited in Brentari & Padden 2001)
• Brentari & Padden (2001): Some initialised signs have no native counterpart so best to think of them as members of lexical families (e.g. colour signs)
• E.g. ASL WATER; BLUE
### Abbreviation signs

- Involve “reduction of the string of fingerspelled letters to at most two handshapes” (Brentari & Padden 2001)
- Usually retain first and medial letters of original fingerspelled words (Brentari & Padden 2001)
- E.g. ASL PROJECT

### Loan signs

- Involve “extensive restructuring with significant reductions in the movement contour of the origin fingerspelled word” (Brentari & Padden 2001)
- Number of handshapes is typically two
- E.g. ASL #EASY

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**Brentari & Padden’s (2001) model**

![Diagram showing core native lexicon and non-native lexicon: A-E]
Category A

- Signs that violate no native rules
- Signs with handshapes, movements, and locations that are found in lexical signs
- Originate from non-native lexicon but now part of native lexicon
- Hence overlap with native lexicon
- ASL #SAY-NO

Category B

- Also signs that violate no native rules
- Signs with movement and locations found in lexical signs, but handshapes from the fingerspelling system rather than from the native lexicon
- Includes many initialised signs
  - E.g. ASL WATER (W handshape)

Category C

- Signs that violate the constraint that each sign must have only one set of selected fingers
- Typically involve non-native handshape change
- E.g. ASL PROJECT
Category D

- Signs that violate the selected fingers constraint
- Also violate the constraint that handshape change should maximise aperture
- This category includes signs that have more than two handshapes
- E.g. some fingerspelled loan signs such as ASL #EASY

Category E

- Signs which violate the same constraints as previous categories
- Also violate the constraint that signs have at most two different movements
- Includes fully fingerspelled words in ASL (e.g. F-R-E-E)

Letter as Handshape

- For ASL, handshape alone usually differentiates one letter from another (e.g. ASL BLUE vs. YELLOW, see left)
- Hence, Brentari & Padden (2001) use handshape as an indicator of a sign’s nativeness
- Assumption that all fingerspelled letters have marked handshapes (letters S and H occur in both native and non-native lexicon)
- Limited to describing only one-handed systems
Our Model

We propose a continuum of nativisation, using three criteria:
• Addition of native elements
• Reduction of non-native elements
• Integration of native and non-native elements

Fingerspelled words

• Fully fingerspelled words
  – Acronyms (B-D-A, N-T-I-D)
  – English terminology (P-R-O-T-E-I-N)
  – Sociolinguistic factors
    • Language context
    • Language background
• Commonly fingerspelled words
  – May be formationally similar to partially nativised loan signs, but nonce loans (not established)
  – ASL & BANZSL T-A-X
Sign + fingerspelled compounds

- Combination of native sign + fingerspelled word
- Fingerspelled word may have elements of some letters lost/reduced (similar to partially nativised fingerspelled loans)
- More established than commonly fingerspelled words
- Examples
  - BANZSL S-T-E-P SISTER
  - ASL S-T-O-C-K MARKET

Partially nativised loan signs

- Fingerspelled words with elements of some letters lost/reduced
- Often, signers feel that the “letters are all there”
- Examples
  - ASL #EASY
  - BANZSL #CLUB
  - BSL #BIRMINGHAM

Two-letter loans

- Two letters of fingerspelled word, may be first two, first and last, or first and medial
- No extra parameters added
- Examples
  - BSL & NZSL PROJECT
  - BSL BRISTOL
  - ASL & BANZSL THURSDAY (less native, T + H)
  - BSL GLASGOW (less native, G + W)
Nativised two-letter loans

- Two letters of fingerspelled word, may be first two, first and last, or first and medial
- Extra native parameters added so more sign-like
- Examples
  - ASL PROJECT (non-dominant hand added)
  - ASL THURSDAY more nativised (no change in palm orientation)
  - BANZSL THURSDAY more nativised (with middle instead of index finger)
  - BSL GLASGOW more nativised (non-dominant hand remains as fist for W)

Less nativised initialised signs

- One letter of fingerspelled word, usually first
- Handshape/handshape combinations do not occur in the native lexicon
- Some with ‘extra’ native parameters added so more sign-like
- Examples
  - ASL WATER
  - BANZSL YEAR
  - BANZSL DIGITAL
  - BANZSL MOTHER (with letter M)

More nativised initialised signs

- One letter of fingerspelled word, usually first
- Handshape/handshape combinations also occur in the native lexicon
- Some with ‘extra’ native parameters added so more sign-like
- Examples
  - BANZSL GARAGE
    - Handshape combination also occurs in native sign CHURCH
  - ASL SOCIETY
    - Handshape also occurs in native sign WORK
  - BANZSL MOTHER (with B-hand)
  - BANZSL ENGLISH
Fully nativised fingerspelled loan signs

- Nativised
- Signers feel that the letters are not “all there”, not there at all (?)
- This combination of parameters also occurs in the native lexicon
- Examples
  - ASL #SAY-NO
  - ASL #BREAD
  - BANZSL #ABOUT
  - Auslan #SAY-NO

Strengths of our model

- Based on nativisation criteria of all parameters rather than handshape markedness
  - Addition of native elements
  - Reduction of non-native elements
  - Extent to which all elements (not just handshape) are simultaneous versus sequential
- Different typology
  - More subtle distinctions between more and less nativised two letter loans & initialised signs
  - Fingerspelled loan signs - some very nativised, some much less nativised

Conclusion

- Our model considers all native parameters, not just handshape
- Also considers markedness of parameters on their own separately from their relation to fingerspelled letters
- More accurate representation of nativisation process
- More complete representation of the phonological structure of these languages
- Despite how different BANZSL & ASL fingerspelling systems look on the surface, our model reveals an inherent similarity in the nativisation process
For further research

- Possible that each type of sign (fingerspelled loans, two letter loans, initialised signs) could be thought of as having its own continuum
  - E.g., Auslan has range of variously nativised fingerspelled loan versions of #BUT and #ABOUT
  - There may further gradations of nativisation for other non-native loans as well (e.g. THURSDAY in ASL or BANZSL)

For further research (2)

- Partially vs. fully nativised fingerspelled loans
  - BANZSL has plenty of partially fingerspelled loans but, it seems, not as many fully nativised fingerspelled loans as ASL
  - Those non-native signs which are most nativised tend to be nativised initialised signs and nativised two-letter loans rather than fully nativised fingerspelled loans
  - Phonological constraint: Maximum two of any parameter
    - Perhaps this is more strict with a two-handed system, where with two letters typically = two handshapes, two movements, two locations. So strong nativisation in BANZSL typically results in fewer letters represented
    - One-handed systems can be more dense - can pack in elements of more letters even for strongly nativised signs because handshape is the only factor

For further research (3)

- More nativised initialised signs vs. fully nativised fingerspelled loans
  - E.g. ASL HISTORY, BANZSL ENGLISH vs. ASL SAY-NO, BANZSL ABOUT
  - Only difference is number of letters represented
  - Perhaps no need for distinction here?
Selected references