Code-blending and Contact Signing Among deaf ASL-English Bilinguals

Degraded auditory input and the absence of early exposure to a sign language by deaf individuals often has consequences for their acquisition of both sign and spoken language. Also, American Sign Language (ASL) shows many indications of language contact with English. Our study aims to address one dimension of this bilingual contact, the nature of 'contact signing' or CSign (Lucas & Valli; L&V 1989, 1992). They place it as a broad category on Lee's (1982) so-called signing continuum, running from natural ASL on one extreme to spoken English on the other, with many intermediate gradations in oral and manual articulations, which can be produced simultaneously. L&V also conclude that CSign is governed by a third grammar, distinct from these individuals' grammars of ASL and English. The other logical possibility is that these bilinguals are using their two grammars in concert to produce CSign, as a type of code-blending (Baker & Van den Bogaerde 2008).

The current study re-examines experimentally the interaction of several features of contact signing proposed by L&V (1992: 101, see Fig. 1): ASL classifier[1] constructions, English mouthing, fingerspelling, ASL indexes (sometimes referred to as ASL pronouns/determiners), ASL morphological verbal agreement, English-based prepositions (such as IN, TO) and conjunctions (like AND, BECAUSE). Classifiers are hypothesized to be native to ASL (e.g. Brentari & Padden 2001; Supalla 1986). English mouthing can be defined as the silent articulation of spoken English, often simultaneously with signing (Battison 1978; Davis 1989). Finally, fingerspelling is a system through which signers arguably borrow English words by spelling them via a manual alphabet.

19 recruited deaf participants from Chicago, IL took part in this study, interacting with a friend they felt comfortable signing with (participants, n=38), in order to facilitate their engagement in "bilingual mode" (Grosjean 1984). They underwent 3 conditions, described in example 1. Five-minute representative clips of all conditions, were annotated using ELAN and analyzed.

A set of generalized linear mixed models (GLMM) applied to the data from 20 randomly-selected participants yielded significant results clustering ASL-like and English-like features separately. Notably, th odds that participants who attended a school for the Deaf (and therefore signed more frequently) were producing a classifier at any point in the data were 1.5 of those same odds for participants who attended mainstream public schools. Participants who reported early acquisition of ASL (before age 6) were also more likely to produce classifiers. The odds that a participant who regularly produced fully-inflected ASL agreeing verbs also frequently produced classifiers decreased to 0.2 of those odds for participants who produced fully-inflected ASL agreeing verbs less frequently. Regarding the clustering of English-like features, fingerspelling was found to co-occur very frequently with English mouthing, and the odds that participants who fingerspelled above average were also mouthing across the data were 3.1 greater than the odds for participants who fingerspelled less frequently. A similar result was found for participants who produced English-based prepositions and/or conjunctions frequently: their odds of mouthing were 1.5 greater. Finally, participants who had some auditory English exposure (i.e. hard-of-hearing, cochlear implant,) were 1.7 times as likely to mouthing across the data. We argue that the variation in signing seen across individual participants can be traced back to their variable acquisition trajectories, and furthermore, some signers engage in code-blending while others do not.

[1] In sign languages, classifiers are handshapes that can be used to represent a noun in the signing space, and they display characteristics of the referent they stand in for within a discourse (Supalla 1986).

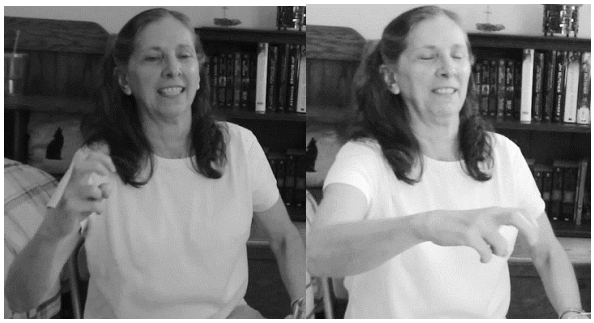

Figure 1a. Classifier Construction: In this example, the referent is a cat, and the signer uses the handshape for animal referents. The onset of the sign (left) agrees with its subject and the offset (right) with its object.

Figure 1b: Fingerspelling/ASL Verb Agreement: in this case of fingerspelling, the English word 'back' has been lexicalized into the ASL lexicon. The individual letters have undergone some assimilation/restructuring. English mouthing of the word 'back' can be observed in this signer's oral articulation.

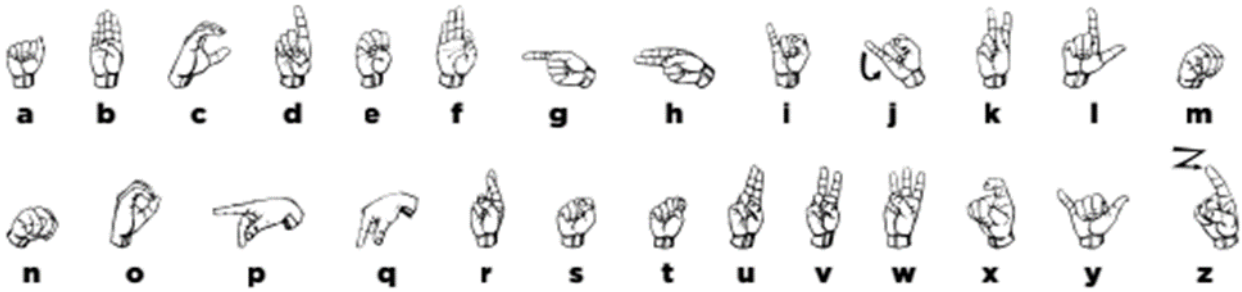

Figure 1c. The ASL fingerspelling alphabet. (from Keane, Brentari, & Riggle 2012)

Example 1: In Condition 1, a deaf native signer interviewed the pair for fifteen to twenty minutes on topics concerning Deaf culture. In Condition 2, the pair were asked to sign with one another alone for another fifteen to twenty minutes. In Condition 3, each member of the pair individually signed to the deaf confederate a series of stories outlined by a set of picture cartoons without language.

Selected References:

Baker, Anne and Beppie Van den Bogaerde (2008) Code-mixing in signs and words in input to and output from children. In C. Plaza-Pust, E. Morales-Lopez (eds). *Sign Bilingualism: Language development, interaction, and maintenance in sign language contact situations.* 1-28.

Brentari, Diane and Carol Padden (2001) Native and foreign vocabulary in American Sign Language: A lexicon with multiple origins. In D. Brentari (ed.) *Foreign vocabulary in sign languages*, 87-120. Mahwah, New Jersey: Lawrence Erlbaum Associates.

Lucas, Ceil and Valli, Clayton (1992) *Language contact in the American Deaf Community*. New York: Academic Press.