One of the unique properties of signed languages is their ability to express meaning iconically: to directly link form and meaning. One method of sign generation in established signed languages is to iconically depict properties of the referent (e.g., Taub, 2001). Phonological theories of established signed languages have had to accommodate the pressure iconicity can exert on the lexicon (e.g., van der Kooij, 2002). Iconicity may also act as part of the substrate from which emerging signed languages draw (e.g., Haviland, 2013; Meir, Padden, Aronoff, & Sandler, 2013). In this investigation, we examine the relationship between phonological structure and iconicity by looking at the lexicons of one emerging signed language (Central Taurus Signed Language, CTSL) and one established signed language (ASL).

CTSL is an emerging language used by approximately 28 deaf people in an isolated village in Turkey. In this study, six villagers completed a picture-naming task of items commonly found in the village. Data from the ASL lexicon were retrieved from ASL-LEX, a lexical database of ASL that contains information about phonological structure, iconicity, lexical class, and subjective frequency for 1,000 signs (Caselli, Sevcikova, Cohen-Goldberg, & Emmorey, in prep).

Study 1: Selected Finger Distribution in CTSL and ASL

An analysis of the distribution of selected fingers revealed that the CTSL signs predominantly select all four fingers (76.7%) and to a lesser extent select the index finger (20.7%). Interestingly, these selected finger groupings are also the most prominent in ASL (all four fingers = 45.7%, index finger = 26.7%), though ASL has eight other, less prevalent, groupings. The distribution of selected fingers used by CTSL signers is nearly identical to that of Al-Sayyid Bedouin Sign Language (ABSL; Sandler, Aronoff, Meir, & Padden, 2011).

We tentatively interpret the similarities among these distributions to suggest that emerging languages initially divide the phonological space into phonological categories that are maximally contrastive. Though it could just be chance that two emerging languages independently arrived at the same phonological categories and that these two categories are the most prevalent in an established signed language, the fact that these are the two maximally distinct possible groupings of selected fingers leads us to believe otherwise. Additionally, the fact that the additional selected finger groupings were less frequent in ASL may suggest that the frequency of a feature may indicate its evolutionary age: unusual or marked phonological categories are late-emerging.

Study 2: Selected Fingers and Iconicity in ASL

Next we examined the iconicity among these selected finger groupings in ASL. Signs that used frequent selected finger groupings tended to be more iconic (*rho* = 0.19, *p* < 0.001). In fact, only the signs that use the two maximally contrastive selected finger groupings were rated above “neutral” (a 3 on a scale from 1-7) in iconicity on average. Similarly, phonologically unusual signs (those that share phonological properties with few other signs) tended to have lower iconicity ratings (*rho* = 0.10, *p* < 0.001). Together this suggests that there is some opposition between phonological markedness and iconicity in ASL: signs that are phonologically unusual tend not to be iconic.

As others before (e.g., Frishberg, 1975), we speculate that in the initial stages of language development iconicity may play a large role in sign generation, but as phonological structure emerges iconicity plays a smaller role. Converging evidence for this proposal is that frequency and iconicity were negatively correlated in the ASL lexicon (*rho* = -0.09, *p* = 0.004). This suggests that with usage signs may become better integrated into phonological system and move further away from their iconic roots.