

The self-organization of lexical domains in sign language

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The division of linguistic structure into morphology and phonology is taken for granted in most linguistic theories. Phenomena that don't quite fit into this division are usually regarded as marginal. However, in the structure of the lexicons of sign languages such phenomena are much more prevalent and central, challenging us to reconsider the linguistic division of labor. The phenomenon we present here highlights the central role of the word in language, and indicates that words may be grouped into specific domains in the lexicon based on partial similarity in form and meaning even though the similar forms in question are not morphemes in the normal sense. Once we recognize this type of structure, we can unify a variety of long-observed phenomena and their role in organizing the lexicon of a language.

We have in mind phenomena that have been termed mimetics, expressives, cranberry morphs, ideophones, root-forming morphemes, phonesthemes, ideophones and submorphemes. All involve sets of words that share some aspect of form and some aspect of meaning but cannot be completely segmented into morphemes that occur elsewhere. Bloomfield (1933), for example, identified sets of English words like *glimmer*, *glitter*, *glisten*, *glow*, and *gleam*, all of which have meanings related to shining light and all share the initial cluster *gl*, which is the root-forming morpheme. Yet if we segment off this form, we are left in each case with a residue that has no identifiable meaning. Similarly, the Indo-European interrogative initial **qu* has reflexes in most modern Indo-European languages, including the English WH. This segment characterizes most of English interrogative words, but cannot be regarded as a morpheme because what is left of the various words has no identifiable meaning, nor can it be identified as a unit.

We have identified a new organizing principle in a number of sign language lexicons that offers novel insight into such phenomena. The pattern, which we call the object vs. handling pattern, appears on nouns designating human artifacts that can be held by hand, e.g. toothbrush, comb, and screwdriver. For signs representing these objects, there are two obvious iconic options: in one, the hands represent how the artifact is handled; in the other, the hands represent salient visual properties of the object itself. For example, the sign for a toothbrush may assume a grasping handshape of the thumb and the closed fingers, portraying how a toothbrush is held; alternatively, the sign could represent the shape of the brush itself, by using an extended index-finger handshape. In principle, the lexical items of a given language could be divided unpredictably among the two types. But a comparative study of 27 such terms in six unrelated sign languages reveals that each language shows a bias towards either object or handling lexicalization, although the bias is never entirely dichotomous.

Like Bloomfield's root-forming morphemes and the other types of phenomena mentioned above, the object or handling aspect of the handshapes cannot be extracted from the full sign as morphemes, because doing so leaves an otherwise non-occurring residue. Also, these elements are associated with specific meaning components of the word. Unlike their spoken-language counterparts, however, they do not have a similarity in form, but rather show a resemblance in the function that they depict: either the shape of the object or the way it is handled. What is remarkable is that each language makes a choice of which to favor, not for each sign, but for the set of signs, thus creating a recognizable domain within the lexicon.

This organizational principle shows that lexical patterns can emerge due to form-and-meaning resemblance of parts of words that are non-morphemic. It might be hypothesized that these patterns can eventually lead to the emergence of regular morphological structures. But the fact that some such systems have remained in this state for so long (e.g. WH words in English) and their centrality in the lexicons of sign languages suggest that the morphological and phonological components alone are not enough to capture regularities and patterns in the lexicon.