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Marschark, Marc
Lang, Harry G
Albertini, John A.

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Sign Language and Forms of Manual Communication

Almost every country has its own sign language. Some countries, like Canada and South Africa, have more than one, corresponding to their multiple spoken languages. National boundaries are less important than cultural similarities, so that American Sign Language (ASL) has French roots, and these roots can still be seen in the grammar in some signs. Despite this borrowing, ASL differs dramatically from both the sign language used in Quebec (La Langue des Signes Quebecoise) and England (British Sign Language). In fact, the manual alphabet used in the United States probably should not be called English because it bears little resemblance to the two-handed manual alphabet of British Sign Language (BSL), used in England.

Like spoken languages, signed languages vary. Sign languages have their own accents, dialects, and idiosyncratic vocabulary. Particular signs may be limited to particular regions, schools, or even families. Home signs, for example, are signs used in much the same way as some special words and names are used in hearing families. Both are most common in homes with small children, often originating from misarticulations or "portmanteau words" like one family's "Democraticle" referring to the local newspaper, The Democrat and Chronicle, and another family's "grabbers," referring to tongs and similar utensils.

Deaf children's exposure to a natural language is an important step beyond the establishment of parent-child communication. By "natural" language, we mean a formal, rule-governed, social communication system that has evolved in the real world to serve the personal, social, and political-economic needs of a particular community. Although debate continues, it appears that natural languages like English and ASL have some significant advantages for learning over artificially constructed, English-based sign systems designed to facilitate the development of reading and writing skills by deaf children. Artificial sign systems do not appear to lead deaf children to fluency in either sign language or in English (see chapter 8), and it appears that the link between

language acquisition and literacy is not as straightforward as has been assumed [Supalla, 1991]. Let us consider the alternatives more carefully.

Natural Sign Languages

Like a spoken language, a sign language consists of a large vocabulary of arbitrary signs, together with a set of rules, or grammar, that govern the formation of individual units, their modification, and their combination into phrases and sentences. Signs are composed of several clearly defined characteristics: handshape, place of articulation, movement, and whether one or two hands are used. Changes in one or more of these characteristics normally will change the meaning of a sign, but signs can be modified or inflected to indicate number, tense, or mood, just as English words can be inflected by adding certain beginnings or endings to words (dog becomes dogs, jump becomes jumped, etc.). In ASL, DOGS may be signed by signing DOG more than once, and JUMPED can either be signed by adding the past tense marker, FINISH, to the sentence or by letting context specify the past. ASL has other ways of modifying signs to change meaning. A change in the movement of the sign COMPLAIN can communicate the concept COMPLAIN CONSTANTLY or COMPLAIN VEHEMENTLY, and a change in movement and position in space can change the meaning of the sign, CHAIR to COUCH or ROW OF CHAIRS. In addition, signs are inflected by the use of nonmanual markers, such as the raising or lowering of the eyebrows and shaking the head. The ability to make such changes, in fact, represents one of the properties that distinguishes sign language from gesture. A true language must have a mechanism for modifications of this sort to be efficient and allow a full range of communication.

One feature of sign language not present in most spoken languages is the use of classifiers. Classifiers are particular handshapes that have general-purpose or categorical meanings. For example, an upright 1-hand (a raised index finger) may be used for representing an individual (human); and a 3-hand (made with the thumb up and the first two fingers pointing away from the signer) may be used to represent CAR or other vehicles, after it has been appropriately designated. Another type of classifier functions more like an adjective than a noun, indicating either the shape, size, or arrangement of objects. For example, F-hands or C-hands moved vertically or horizontally indicate the size and position of cylindrical objects, while I-hands indicate thin filaments or lines (the I-hand also is used for the signs STRING and SPAGHETTI). Although most classifiers make use of alphabetic and numerical handshapes, their meanings are not tied to the letter or number meanings of the handshapes.

Another unique feature of sign languages is their use of space to communicate time and location. A speaker of ASL uses positions to indicate PAST (behind the signer), present or NOW (beside or just in front of the signer) and FUTURE (farther out in front of the signer). The sign WEEK, made in front of the body, can be inflected to indicate LAST-WEEK by finishing the sign in an arc backwards, towards the right shoulder (for righthanded people). NEXT-WEEK is made by finishing the sign WEEK with an arc forward, out from the body. The signs for YEAR and MONTH are similarly inflected in ASL.

Signers also use space to establish locations for places, people, and objects for later use as pronouns. A signer might identify several individuals by name (by means of

fingerspelling or name-signs), for example, and place them in different locations in the signing space, to the right, to the left or directly in front. To refer back to any individual, the signer need only point, nod, or look in the direction that the person was originally positioned in the sign space (like using there, him, or that).

Together with signs, facial expression, and body movement, sign languages also make use of a manual alphabet. The use of the alphabet, through fingerspelling, serves a somewhat different function in a signed language than in spoken language. We spell words in English when they are unfamiliar, but we normally do not use spelling in everyday conversation. Users of ASL, in contrast, use fingerspelling when there are no conventional signs for particular words, where the signs are obscure or unknown, and in a variety of cases where signs exist but are being replaced with fingerspelled loan signs (Metzger, 1998). Loan signs are often made with particular movements. The loan sign for SALE, for example, is made by producing each letter while the hand is moving in a clockwise circular motion (from the perspective of the signer), with the palm facing outward. The loan sign for EASY is made with the palm facing upward for the E and rotating it until it is downward for the Y, meanwhile passing through the letters "A" and "S." Fingerspelling normally does not replace signing, but supplements it, and its use varies in different regions.

Other Forms of Communication on the Hands

Fingerspelling, classifiers, and the ways in which signs are formed, modified, and combined illustrate the distinctive characteristics of sign languages. This is not to say, however, that they develop in isolation from spoken language. When hearing and deaf people come into contact, they often use a simplified form of signing that includes the grammar of the local spoken language. In the case of English-speaking North Americans, this hybrid is usually referred to as Pidgin Signed English (PSE) or contact sign. Users of PSE employ a basic ASL sign vocabulary, but because their lexicons tend to be smaller, they rely more on context and mechanisms like initialization to figure out meaning. For example, to sign the concepts, situation, context, and environment, PSE speakers will use the same sign with a different fingerspelled letter on the dominant hand for each term (S-ITUATION, C-ONTEXT, E-NVIRONMENT). As in spoken pidgins, PSE uses minimal inflection (compared to English and ASL) and a basic subject-verb-object word order.

Existing side-by-side with such naturally occurring systems as PSE are several systems constructed by educators to teach English. These systems attempt to represent English by combining ASL signs, English word order, and some invented signs to represent grammatical markers in English. Signed English, for example, combines the signs of ASL with the grammatical structure of English. Beyond the use of initialized signs, Signed English includes a set of 14 invented markers to indicate plurals, possessives, tenses, adverbs, adjectives, and so on. The stated goal of including these markers is to support the acquisition of English structure necessary for reading, writing, and possibly speech.

Seeing Essential English, or SEE1, and Signing Exact English, or SEE2, similarly were developed as ways to represent English visually on the hands. In SEE1, for example, every English word has a basic ASL sign, and signs are produced in English word order.

Additional signs are used to represent English grammatical structures, as in Signed English. SEE1 goes further than signed English in attempting to communicate English fully, using a different sign for each morpheme (meaningful unit) of English rather than for each concept. Thus, where ASL and Signed English have single signs for concepts like "butterfly" and "sweetheart," SEE1 uses two signs, one for each part of the compound word. "Butterfly" is signed by combining the signs BUTTER and FLY, and "sweetheart" is signed by combining the signs SWEET and HEART. Children acquiring English-based sign systems like SEE1 appear to have better literacy skills than children exposed to Pidgin Sign English; but they do not exceed the skills of children who have acquired ASL, despite the original arguments for constructing such systems (Luetke-Stahlman, 1990; Power & Hyde, 1997; Power & Leigh, 2000).

One alternative to natural sign languages and signed systems is cued speech. Cued speech is a supplement to spoken English intended to make important features of spoken language fully visible (Cornett & Daisey, 1992; LaSasso & Metzger, 1998). Many speech sounds look alike on the lips when they are pronounced, making speechreading difficult. For example, pronunciation of the letters c, e, g, and z, all look similar on the lips. English cued speech uses 36 different cues to clarify the 44 different sounds in English. Cues for vowel sounds are produced by placing the hand at one of seven different locations on the face in the area of the mouth. Cues for consonant sounds are provided by making one of eight alternative handshapes and combining them with the vowel locations. The handshapes of cued speech thus play a very different role from the handshapes of sign languages, which carry information about meaning rather than about sound.

Given the several alternative sign-based systems available for deaf children, it would seem that those systems that are likely to be most effective are those that combine as many sources of information as possible. That is the philosophy behind total communication, which includes simultaneous communication (sign language and spoken language together) and support for residual hearing through assistive listening devices. At present, however, it is unclear whether the limited benefits to deaf children's literacy or spoken language skills after learning a hybrid sign system are enough to offset their not being fluent in either a signed or a spoken language. Given the importance of early communication for young deaf children, it appears unlikely that this is the case. Nevertheless, it may be that some kind of manually coded English would be of benefit after a child has learned ASL as a first language, thus providing a bridge to written English. We consider this possibility in chapters 5 and 8, in the context of language development and literacy.

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