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Sign Languages of the World

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The Current State of Knowledge

After more than 30 years of systematic sign language research, most sign languages throughout the world still remain scarcely documented or even entirely unknown. We can only estimate how many sign languages exist in the world, and we are even less sure about how they may be grouped into language families. A few sign languages in industrialized countries are reasonably well documented, whereas little is known about sign languages in other areas of the world, such as sub-Saharan Africa, Southeast Asia, and the Arab world. Nevertheless, increasingly more information has been coming to light during the past decade, although we are still far away from systematic linguistic documentation in most cases.

Based on what we know to date, it is fairly clear that the sign languages of the world number in the hundreds rather than in the thousands and are thus much fewer in number than their spoken counterparts. For all we know, they are also much younger than spoken languages, although other forms of gestural communication are as old as humanity itself. The latest edition of the *Ethnologue* (Grimes, 2004) lists approximately 100 living sign languages. However, there are many omissions and errors in this list, so the actual number of sign languages in the world is likely to be at least three or four times greater.

The maximum documented age for a sign language is slightly more than 500 years for the sign language used at the Ottoman court in Turkey (Miles, 2000). There is no reason why the large cities of antiquity

more than 2000 years ago should not have had groups of sign language users, but we do not have any reliable sources for these times. On the other hand, it is quite unlikely that communities of sign language users as we know them today would have existed even earlier. Only after urbanization had created reasonably large populations could critical numbers of deaf people theoretically have come together to use a sign language.

For many known sign languages, there is more or less detailed anecdotal evidence of historical links with other sign languages. These links may have to do with colonial history, migration of populations, or, in more recent times, the establishment of deaf education with the help of another country. The principal difficulty lies in determining whether a particular relationship between sign languages is genetic in nature (i.e., in how far we can speak of a sign language family) or whether we are dealing with a language contact situation. Attempts at addressing this issue have been largely unsuccessful, and no theoretically sound method of investigating historical relationships between sign languages is available.

In recent years, increasingly more sign languages are beginning to be documented. A first step is usually the compilation of basic vocabulary in word lists (pairing a word and a picture of a sign), which are often wrongly called 'dictionaries' (see **Figure 1**). During the past decade, these and other developments have resulted in a situation in which it is now possible to systematically compare linguistic structures across a much wider range of sign languages than in the past. The newly emerging field of sign language typology is concerned with the issue of how to systematize this new knowledge in a theory of variation across sign languages.

Sociocultural and Sociolinguistic Variables

Signed communication occurs in a variety of situations. This article is concerned exclusively with natural full-fledged sign languages that are the primary languages of their users. We are not concerned with artificially created sign systems such as 'Manually Coded English,' 'Signed Japanese,' and 'Dutch in Signs,' which have been invented for educational purposes with the aim of mirroring spoken language structures 'on the hands' (*see* **Sign Language: Communities and Cultures**). We are also not concerned with secondary sign languages that are used in communities where the usual mode of communication is through a spoken language but where signed communication plays a supplementary role for certain purposes, such as conditions of speech taboo. Rather, the

sign languages we are interested in involve groups of deaf people for whom the sign language is the primary means of communication.

The first sign languages that were documented in detail from the 1970s onwards are used by communities of deaf people in urban settings. These are minority languages in which most of the users are deaf and there is constant language contact with the surrounding spoken/written language of the majority culture of hearing people. This situation is well described and occurs in urban areas in all regions of the world.

However, sign languages also exist in an entirely different sociocultural setting that is less well documented but highly significant for cross-linguistic comparison. These sign languages are used in village communities with a high incidence of hereditary deafness. Village-based sign languages arise because deaf individuals have been born into the village community over several generations, and therefore a sign language has evolved that is restricted to the particular village or group of villages. These sign languages are typically used by the whole village population no matter whether deaf or hearing, and in this sense, they are not minority languages, nor do they face any linguistic oppression. They have developed in isolation from other sign languages and are not used in any educational or official context. Deaf people are fully integrated into village life and may not be considered to be 'disabled' in any sense (Branson *et al.*, 1999). The existence of village-based sign languages has been reported from places as diverse as Bali, Ghana, Thailand, Mexico, an Arab Bedouin tribe in Israel, and a native Indian tribe in the Amazon, but their linguistic documentation is only just beginning. These languages have the potential to call into question many of the general assumptions that were made previously about the structure of sign languages.

Some village-based sign languages are already endangered and have not been documented in detail. As the larger, urban sign languages move in through formal education and the media, these small, locally restricted sign languages face similar pressures as their spoken language counterparts (*see* **Endangered Languages**). Similarly, sign languages in some developing countries have been under pressure from foreign sign languages, as in many African countries. In places where the deaf community is very large and the indigenous sign language has had time to develop on its own, it is relatively immune to foreign influences, as is the case in China and in the Indian subcontinent.

Despite similarities with respect to language endangerment, the life cycle of sign languages also differs from that of spoken languages in that new sign languages continuously emerge throughout the world, as most famously documented in Nicaragua (Kegl

NANASI
pineapple

Hutumika pia kwa Katani
it is alsoused for "sisal"

Alama sanifu
standard sign

169:571

NAZI
coconut

Alama sanifu
standard sign

LANGUAGE RULES AND TERMINOLOGY OPPOSITES   قواعدالفاظ اور زبان   متضاد الفاظ
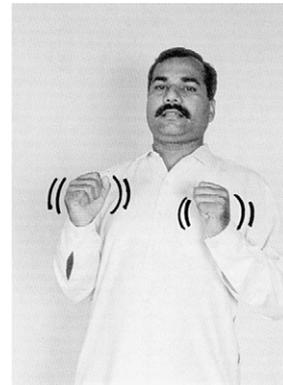
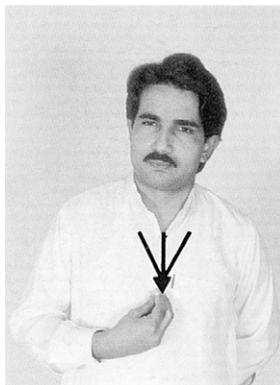LESS   کم   MORE   زیاده   COLD   سرد
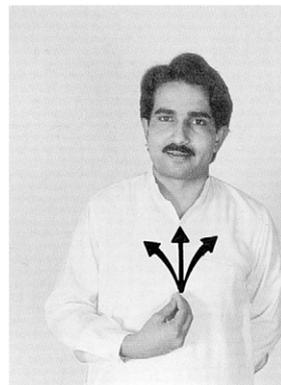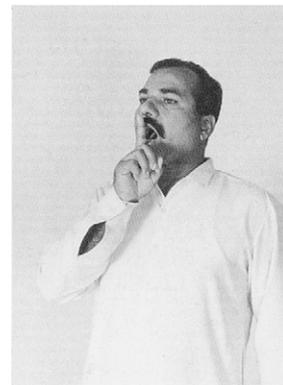
SAD   اُداس   HAPPY   خوش   HOT   گرم

Figure 1   Entries from sign language dictionaries (Tanzania, Pakistan).

et al., 1999). Throughout the world, urbanization and the spread of special education for the deaf create new deaf communities with newly emerging sign languages. The stage of a sign language's life cycle is an important consideration for comparing the structures of sign languages.

Relationships between Sign Languages

For a number of individual sign languages as well as groups of sign languages, the notion of sign language family has been proposed, based on known facts about their relationship with each other. For example, it is well-known that sign language was brought to New Zealand and Australia from the United Kingdom, and therefore these three sign languages make up the 'British Sign Language family.' For different historical reasons, the Japanese Sign Language family includes sign languages in Taiwan and Korea, both of which had been under Japanese occupation. In cases in which one and the same sign language-using community seems to have split and subsequently developed independently from each other, the traditional family tree model can be applied, and the shared history is visible and interpretable. Sign languages in Australia, New Zealand, and the United Kingdom are still mutually intelligible to a large extent and share most of their vocabulary, to the extent that it is doubtful whether they should not be classified as dialects of one and the same language. Sign languages in Korea, Japan, and Taiwan all share a peculiar grammatical mechanism of gender marking, with the thumb indicating male and the little finger female gender as formative elements in complex signs (see Figure 2). This feature is not found in any other known sign language and, together with other factors, makes a strong case for positing a shared history of this sign language family.

However, the situation is usually not so clear-cut. In most cases, it is impossible to determine whether similarities between two sign languages are the result of a genetic relationship or the result of language contact. Instead of the 'pure' kind of family tree relationship, a more common type of relationship between two sign languages involves various kinds of language contact situations, language mixing, and creolization. For example, American Sign Language is said to have arisen in a creolization process, where Old French Sign Language came in contact with indigenous sign varieties, resulting in a new language with input from both of these sources. This kind of relationship cannot be considered genetic in the usual sense of the term.

In many cases, there is more or less clear historical evidence of relationships between sign languages. This may be related to colonial history so that, for instance, sign language communities in the Indian subcontinent use a two-handed manual alphabet as in British Sign Language. However, actual historical documentation of how this came to be the case is lacking, there are very few meaningful similarities in the vocabulary and grammar of the two sign languages, and there is thus no evidence for including Indo-Pakistani Sign Language in the British Sign Language family. Another common factor in linking two sign languages often involves the establishment of educational facilities for the deaf. For instance, the sign language in Brazil is said to have its root in French Sign Language because a deaf Frenchman established the first school for the deaf in Brazil, and Swedish Sign Language was similarly brought to Finland. We find this kind of link between many African countries and one or more Western 'source' sign languages (Schmaling, 2001). American Sign Language (ASL) has had a major impact on deaf communities in other countries, such as Thailand, the Philippines, Uganda, Zambia, Ghana, Malaysia, and Singapore, and it is often unclear whether the sign languages used in these countries should be considered dialects of ASL, descendants of ASL in a family tree of

Figure 2   Gender marking in South Korean Sign Language: SCOLD(someone), SCOLD(me), SCOLD(a male person), SCOLD(a female person).

languages, ASL-based creoles, or independent sign languages with extensive lexical borrowing from ASL. To the extent that indigenous sign languages already existed in these countries and secondarily came under the influence of a foreign sign language, the relationships between them are not genetic in the usual sense but are instances of language contact.

This kind of problem is not unknown for spoken languages but is aggravated by a number of complicating factors in the case of sign languages. First, the familiar historical–comparative method that is used to determine language families and reconstruct older forms of source languages has never been applied to sign languages. No process of regular sound change has been identified, and the comparison of morphological paradigms is often compromised because the forms in question are iconically motivated. Vocabulary comparisons are highly unreliable, and there seems to be a considerable 'baseline level' of iconically determined lexical similarity even between unrelated sign languages (Guerra Currie *et al.*, 2002). The first family trees that were proposed for sign languages were based on historical evidence and lexical similarities, and later attempts at using glottochronology on the basis of word list comparisons (Woodward, 1993, 2000) are similarly unreliable.

Another complicating factor in many cases is the uncertainty about whether or not there were indigenous sign varieties before the influence of a foreign sign language set in and, if so, what the linguistic status of this signed communication might have been. It is possible that in a particular region, limited home sign systems came in contact with a foreign full-fledged sign language, resulting in a new sign language in a process that has no counterpart among spoken languages. Finally, the lack of any historical records makes it difficult to directly test and evaluate any proposed historical relationship between sign languages. In the absence of any sound methodology for establishing sign language families, the issue of how one sign language is related to another one usually remains unresolved.

Grammatical Similarities and Differences across Sign Languages

Over time, sign language linguists have come to expect certain features in the structure of sign languages that have been shown to occur with great regularity in most or all sign languages known and described so far. Accordingly, there are attempts at accounting for these putative sign language universals on the basis of their visual–gestural modality. For instance, sign languages offer the possibility of using spatial grammatical mechanisms by virtue of being three-dimensional

languages, and therefore they tend to use movement modifications to express aspectual distinctions or to use movement direction to code verb agreement (*see* **Sign Language: Interpreting**). Since the articulators in sign language are larger and slower than in a spoken language, sign languages tend to mark grammatical functions in a simultaneous rather than a sequential fashion; therefore, they use nonmanual behaviors such as facial expressions to mark sentence types (questions, negation, and subordination), and they use complex signs with numeral incorporation (e.g., a single complex sign meaning 'three months') (*see* **Sign Language: Morphology**). It has been claimed that sign languages are similar in the kinds of complex simultaneous morphology just mentioned but differ from each other in sequential morphology such as clitics and affixes, with sequential morphology being comparatively rare in sign languages (Aronoff *et al.*, 2000).

Most of these generalizations about the similarities between sign languages are based on investigations of a limited number of languages, mainly in Europe and North America. The picture changes somewhat when examining a larger range of the world's sign languages. Although the previous observations are indeed true of many sign languages throughout the world, this is only part of the story. First, some sign languages do not show the 'expected' types of structures. Two unrelated village-based sign languages, in Bali and Israel, do not show an elaborate system of spatial verb agreement as is familiar from other sign languages. Another village-based sign language in Ghana does have spatial verb agreement but does not use the so-called 'classifier' hand shapes to refer to categories of moving persons, animals, and vehicles (*see* **Sign Language: Syntax**). Given that village-based sign languages have developed in isolation from any other sign language and exist under very different sociolinguistic conditions, it is not unexpected to find important differences in their structures in comparison with urban sign languages.

The range of possible structures in sign languages expands considerably when we consider non-Western, lesser-known sign languages. The gender marking system in the Japanese Sign Language family represents one such example. Sign language varieties in China also show many particularities that are not familiar from documented Western sign languages. Chinese Sign Language varieties include so-called 'character signs,' a particular type of borrowing in which the shapes and movements of the hands imitate the whole or part of words from the Chinese writing system (see **Figure 3**). Both northern and southern sign language varieties in China also make use of a productive mechanism of negation in which negative
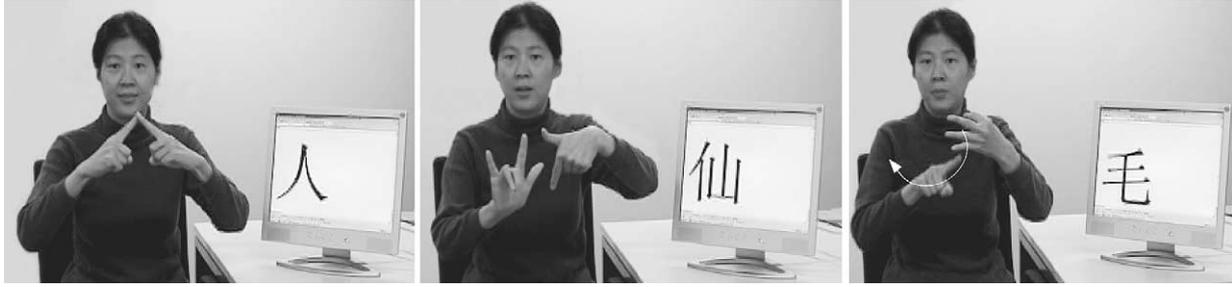
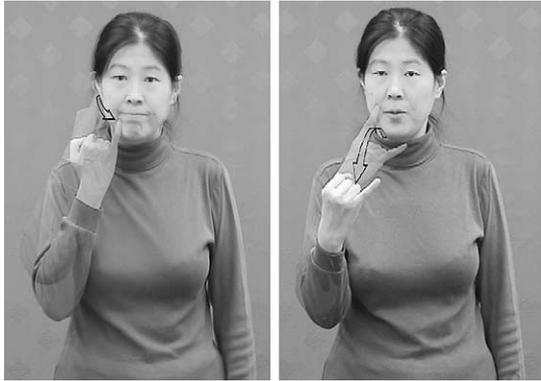**Figure 3** Character signs in Chinese Sign Language.

Figure 4 Chinese Sign Language signs with ''little finger'' negative morpheme: DEAF and TASTELESS.

signs are marked by an extended little finger and the positive counterparts have an extended thumb (see Figure 4). Finally, question words for quantifiable concepts include one or two open hands with finger wiggling as part of complex signs, forming a large paradigm of interrogatives. The study of a greater range of sign languages thus reveals a large number of previously undocumented grammatical structures, just as the study of 'exotic' spoken languages did in earlier stages of spoken language linguistics.

Other structural differences between sign languages are more subtle and only come to light after systematic investigation. Typologically oriented studies across sign languages exist for a limited number of grammatical domains (for pronouns, see McBurney, 2002; for questions and negation, see Zeshan, 2004a, 2004b). Such studies show that the degree of structural differences between sign languages may be considerable but is unevenly distributed across different parameters of investigation. For example, sign languages differ as radically as spoken languages with respect to the set of their possible question words. A sign language may have only a single question word, as in certain dialects of Indo-Pakistani Sign Language (see Figure 5), or more than a dozen, as in Hong Kong Sign Language. On the other hand, the facial expressions accompanying questions tend to be very similar across unrelated sign languages, with eye

contact, forward head position, and eyebrow movement as prominent features. Understanding the reasons for these patterns is important for building a theory of typological variation across sign languages.

Another important result from comparative studies is that certain sign language forms may look very similar superficially but in fact have very different properties. For instance, in a broad range of 38 sign languages throughout the world (see Figure 6), it has been found that in each case, negation can be expressed by a side-to-side headshake (Zeshan, 2004a). However, the grammatical constraints governing the use of headshake negation in fact differ greatly across sign languages. Whereas in some sign languages, such as in the Scandinavian region, headshake negation is a primary negation strategy and may often be the only instance of negation in the clause (Bergman, 1995), other sign languages, such as in Japan and Turkey, obligatorily use a manual negative sign with or without headshake negation as a secondary accompaniment. Sign languages in the eastern Mediterranean region (Greece, Turkey, and neighboring Arab countries) additionally use a single backward head tilt for negation that has not been found in any other region of the world (Zeshan, 2002).

It can be assumed that the significance of many possible parameters of variation across sign languages has not been recognized. For example, mouth movements deriving from a silent representation of spoken words, so-called 'mouthing,' carry an important functional load in some sign languages (e.g., in Germany, The Netherlands, and Israel) but are functionally largely irrelevant in Indo-Pakistani Sign Language (Boyes Braem and Sutton-Spence, 2001). The presence or absence of contact with literacy may be another important factor, evidenced by the fact that not all sign languages use an indigenous manual alphabet for fingerspelling (*see* **Fingerspelling**).

Future Developments

The dynamics of developments throughout the world with respect to sign languages and their

Figure 5 Combinations with the Indo-Pakistani Sign Language question word (WH): PLACE+WH ''where'', TIME+WH ''when''.

Figure 6 Sign languages represented in the typological survey on questions and negation.

documentation carry considerable momentum. Some sign languages are endangered, whereas others are expanding in geographical spread and contexts of use, and some are only just being created by new communities of users. Forces such as intensive contact between sign language and spoken language, as well as between one sign language and another, and the move toward official recognition for sign languages and the deaf communities that use them rapidly change and reshape the makeup of many sign languages worldwide. It is a continuous challenge for sign language linguistics to keep up with these developments and put together an increasingly detailed picture of linguistic diversity among the world's sign languages.

See also: Endangered Languages; Fingerspelling; Sign Language: Communities and Cultures; Sign Language: Interpreting; Sign Language: Morphology; Sign Language: Syntax.

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Sign Theories

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Sign Theory and Semiotics/Sign Theory vs. Semiotics

Semiotics, if taken as a scientific, theoretical, and philosophical approach as a whole, is more often than not considered synonymous with the terms 'theory of signs' or 'sign theory.' In this view, treating 'sign theories' would be equal to treating semiotics as a very comprehensive intellectual endeavor and indeed age-old human 'project,' and would thus be in the present framework tautological with an entry on 'semiotics.' What will be discussed here are the theories about the fundamental unit of sign systems and processes: 'sign theories' in the closer sense, theories about the sign itself as the central topic of theoretical semiotics. Such theories may in some cases comprise not much more than explanations; in major cases, they comprise theoretical consequences such as sign typologies or conceptions about sign functions. 'Theory' may also tendentially coincide with 'model,' 'conception' or 'definition.' In this view, one accepts that semiotics is an 'overarching metadiscipline' (Stam *et al.*, 1992: 1) comprising (besides sign theories) theories of sign systems and processes, text theories, discourse theories, theories of narration, theories of sign 'dimensions,' code theories, and even media theories, etc. Also included are the 'doctrine of signs,' what is not the same as 'theory' (as the late Thomas A. Sebeok, spiritus rector of the semiotic community, never got tired to hint at), and even entire theories of culture, as in the semiotics of