

## INTERROGATIVE CONSTRUCTIONS IN SIGNED LANGUAGES: CROSSLINGUISTIC PERSPECTIVES

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This article reports on results from a broad crosslinguistic study based on data from thirty-five signed languages around the world. The study is the first of its kind, and the typological generalizations presented here cover the domain of interrogative structures as they appear across a wide range of geographically and genetically distinct signed languages. Manual and nonmanual ways of marking basic types of questions in signed languages are investigated. As a result, it becomes clear that the range of crosslinguistic variation is extensive for some subparameters, such as the structure of question-word paradigms, while other parameters, such as the use of nonmanual expressions in questions, show more similarities across signed languages. Finally, it is instructive to compare the findings from signed language typology to relevant data from spoken languages at a more abstract, crossmodality level.\*

**1. INTRODUCTION.** Signed languages are full-fledged natural human languages that operate in a visual-gestural modality. Since the 1960s, they have been the subject of systematic linguistic investigation, and signed-language research has expanded tremendously since then. Yet typological studies of the properties of such languages still lag far behind those of spoken languages in scope and in number, with notable exceptions including McBurney 2002 and Zeshan 2004. The present study makes a contribution to this growing literature by reporting on the first extensive crosslinguistic study of selected constructions across a wide sample of signed languages from all over the world. Since no such project has been undertaken before, a few introductory remarks about its scope and significance are helpful for an understanding of its implications.

\* I am grateful to the Research Centre for Linguistic Typology at La Trobe University and its directors R. M. W. Dixon and A. Aikhenvald for support of the research project on the typology of negative and interrogative constructions in signed and spoken languages. Siew Peng and Darren Condon assisted with the development of the MS Access database, and Adam Schembri acted as test person for the questionnaires. I am grateful to Hillary Chappell, Andrew Ingram, the editors of *Language*, and three anonymous referees for reading and commenting on earlier versions of this article. The German Science Foundation has been supporting the research project ZE507/1-1 under its postdoctoral 'Emmy-Noether' scheme. I am indebted to my many signed language informants in India, Pakistan, Turkey, and Lebanon for sharing their language with me. Special thanks are due to all co-researchers who have contributed to the project: Trevor Johnston (Auslan, Australia), Elisabeth Engberg-Pedersen (Dansk Tegnsprog, Denmark), Leena Savolainen, Pia Koivula, Kimmo Leinonen, Kaisa Engman, Karin Hoyer, and Anja Malm (Finnish Sign Language), Ritva Takkinen, with a group of students (Finnish Sign Language), Klimis Antzakas (Greek Sign Language), Gladys Tang and Kenny Chen (Hong Kong Sign Language), Svandís Svasvarsdóttir (Íslenskt Táknmál, Iceland), Helena Saunders (Irish Sign Language), Irit Meir and Meir Etedgi (Israeli Sign Language), Washington Akaranga (Kenyan Sign Language), Ronice Mueller de Quadros (Língua de Sinais Brasileira, Brazil), Rachel McKee (New Zealand Sign Language), Michael Morgan (Nihon Shuwa, Japan), Sean Witty and Cho Wiyong Witty (South Korean Sign Language), Inmaculada Baez, Carmen Cabeza, Ana Fernández-Soneira, Mar Lourido-Francisco, and Juan Valiño-Freire-Grupo de Investigación sobre Lengua de Señas, Universidad de Vigo (Lengua de Señas Española, Spain), Wayne Smith (Taiwanese Sign Language), Nicholaus Mpingwa (Tanzania Sign Language), Sam Lutalo (Ugandan Sign Language), and Myriam Vermeerbergen and Diane Boonen (Vlaamse Gebarentaal, Belgium). I also thank the deaf individuals I filmed during the World Federation of the Deaf congress in Brisbane in 1999 and whose data I have used for the project: Kanitha Ratanasint (Thailand), Margaret Mukami, Nickson Akiri (Kenya), Lupi Maswaya (Tanzania), and Tanya Davidenko (Russia).

The typological study of signed languages has two principal aims. Its main immediate purpose is to study crosslinguistic patterns of variation with the aim of establishing the range of linguistic variation that can be found across signed languages. That is, we want to know how different signed languages can be from one another and to capture the full range of linguistic structures that can be found in signed languages. Looking at the current literature in signed-language linguistics, one might get the impression that all signed languages are quite similar in structure. There are probably several reasons for this, such as the dominance of American Sign Language research and the range of (mostly Western) signed languages that have been studied so far. The true extent of typological diversity in signed languages is, at the current stage of research, an empirical question and can be addressed only by looking at many different signed languages that are geographically and genetically unrelated. Only after looking at a wide range of signed languages will it be possible to consider whether certain characteristics apply to 'signed language' in general, whether they are widespread but not universal, or whether they are an areal phenomenon occurring in signed languages from a certain region only. Given the fact that most signed languages in the world are largely or completely undocumented, descriptive work is obviously of great importance. This particularly applies to signed languages in Asia, Africa, and South America.

Apart from documenting individual signed languages in detail, a particularly fruitful approach to language typology for both signed and spoken languages is to study limited semantic or morphosyntactic domains across as many languages as possible. Rather than documenting or classifying a language as a whole, individual semantic domains or individual constructions are investigated and languages are classified with respect to these domains only. For instance, a typology of possession will look at ways the semantic domain of possession is expressed in different languages. Typologists may also attempt to study a particular construction type such as the passive, the applicative, or serial verb constructions to find out variables that operate across languages. This is the approach taken for the purposes of the project reported on in this paper. More details about the methodological design of the project are given in §3.1, and the data used for the project are described in §3.2.

From a more theoretical point of view, empirical data on a broad range of signed languages should eventually lead to a theory of variation across signed languages. Having determined the range of crosslinguistic variation, this theory should address various issues beyond descriptive studies. These include identifying the parameters that are significant in describing typological variation across signed languages, discussing why different semantic or morphosyntactic domains show different degrees of variation across signed languages, and determining what it means to say that signed languages constitute a distinct linguistic type.

The notion of signed languages as a linguistic type of their own defines the second important aim of signed-language typology, namely a comparison between the two modalities of human language—signed and spoken. Indeed, one of the fascinating aspects of signed-language research is precisely that it leads one to reconsider central questions in linguistics from a novel perspective. Although modality-related differences between signed and spoken language are increasingly being discussed in the literature (e.g. Armstrong 1983, Anderson 1993, Dotter & Holzinger 1995), none of the claims that have been made is empirically substantiated in the sense of being tested against a wide range of signed languages. Just as it is inadequate to talk about the nature of 'spoken language' on the basis of evidence from English and a few other Indo-European languages, it is inappropriate to infer what 'signed languages' as a type are like on the basis of, say, American Sign Language and a few other Western signed languages. In

spoken-language typology, a whole range of linguistic categories would never have been found by looking at Indo-European languages alone. Signed-language typology has a similar contribution to make to signed-language research. Results generated by typological work on signed languages allow for a broader and empirically tested view of what is common across and typical of signed languages in comparison with spoken languages.

As a small step in this direction, this article reports on some results drawn from a first case study in signed-language typology. The project investigated interrogative and negative constructions across signed languages around the world, covering a comprehensive range of topics within these domains. Its first and immediate aim was to provide empirical data about as many signed languages as possible, from as many different areas and affiliations as possible. Second, empirically based generalizations were drawn from the data, relating to such issues as the range and kind of crosslinguistic variation attested in the data, the grammaticalization of some of the constructions under discussion, interrelations between different subdomains, and the possibility of areal features within grammatical structures of signed languages. I discuss some of the results that have emerged from the analysis of the data on interrogative constructions.

**2. IMPORTANT PRELIMINARIES ON SIGNED LANGUAGES.** Before turning to methodological considerations in relation to the particular crosslinguistic study, I offer some preliminary information about signed languages in general. The diverse topics covered in §§2.1–2.5 set the stage with the background necessary for understanding the data to be discussed in this article.

**2.1. ON THE NATURE OF SIGNED LANGUAGES.** Linguistic signals in signed languages consist of hand movements, facial expressions, and head and body postures, which are produced in three-dimensional space and perceived with the eyes. The signed languages that are the subject of this article are the primary languages of communication in the deaf communities where they are used. Signed languages are sometimes used in other kinds of situations, for example, as an alternative mode of communication in conditions of strong speech taboos (see Kendon 1988 about signing in Australian Aboriginal communities), but such situations are not considered here.

Signed languages have developed around the world wherever deaf people have come together to form a community, often in the context of a beginning education system for deaf children. From a sociolinguistic point of view, they usually constitute minority languages that are in constant contact with the surrounding spoken languages used by the nondeaf majority. But signed languages are in no way derived from coexisting spoken languages and do not constitute a representation of spoken languages ‘on the hands’. Rather, they have a linguistic structure of their own that can be and often is radically different from the surrounding spoken language or languages. Having been recognized as fully complex languages that are on a par with spoken languages in every aspect of linguistic organization (e.g. Sutton-Spence & Woll 1999, Boyes Braem 1990), signed languages are now viewed as the legitimate primary languages of linguistic and cultural minorities, the deaf communities that use them.

**2.2. REPRESENTING SIGNED LANGUAGE DATA.** Given the fact that signed languages involve dynamic movements in three-dimensional space and transmit linguistic information simultaneously via several channels (hand movements, facial expressions, head positions, body postures), adequately representing signed languages on paper has always been a major problem in signed-language research. Although certain conventions have developed in the signed-language research community, there is still no satisfactory way

of representing signed-language data. The most widespread practice is to write labels for the signs in capital letters, with one or several additional lines on top to mark nonmanual signals, and I follow the same convention in this article.<sup>1</sup> The following is an example from Turkey.

(1) Türk İşaret Dili (Turkey)

\_\_\_\_\_ cont-q  
2SG:POSS SIBLING HOW-MANY  
'How many siblings have you got?'

In this utterance, the signer first produces a second person possessive pronoun (2SG: POSS), which is spatially directed at the addressee, then the sign for 'sibling', and then a monomorphemic sign meaning 'how many'. The last two signs are accompanied by a facial expression signaling a content question (cont-q), with the straight line above the sign labels indicating the cooccurrence of the nonmanual signal with the manually produced signs.

This representation involves numerous problems, but allows us at least to reconstruct the order and internal morphology of signs, as well as their cooccurrence with nonmanual signals. It is not possible to know what a signed utterance looks like on the basis of the transcription; therefore, a number of individual signs and utterances are also represented by video frames throughout this article. Several pictures joined side by side represent a sentence. Where it is important to highlight the movement of the hands, this is shown by arrows that have been added to the pictures. In addition, individual video frames are accompanied by a description of the sign in words.

**2.3. SIGNED LANGUAGES AND SIGNED CODES FOR SPOKEN LANGUAGES.** Although signed languages have a structure of their own that is independent of spoken languages, there is a type of manual communication that resembles a coexisting spoken language more closely. In a number of countries, a system for representing the spoken language 'on the hands' has been introduced for educational purposes. The manual signs in these systems are taken from the signed language, but they are used to construct a word-by-word or sometimes morpheme-by-morpheme translation from the spoken language. Signed-language-specific morphology and nonmanual signals are often left out, special signs may be added to represent morphemes from the spoken language, and various mixed forms are possible in between the two poles of the natural signed language and an exact representation of the spoken language. A form of Signed English that is used in parts of India is contrasted with the primary Indo-Pakistani Sign Language in 2.

(2) Signed English                    HOW ARE YOU  
Indo-Pakistani Sign Language    \_\_\_\_\_ pol-q  
    HEALTH GOOD  
    'How are you?'

<sup>1</sup> All transcribed examples have been translated into English if the original was in another language, and the glossing of frequently occurring signs has been standardized. Words in capital letters represent the signs, with nonmanual signals noted on top of these at the end of a line indicating the scope of the signal. Single-sign glosses that consist of more than one English word are transcribed with hyphens (LAST-YEAR, HOW-ABOUT) and complex signs are transcribed with a plus symbol (HAVE + HAVE-NOT). In the graphics, a wavy line indicates finger wiggling, a star indicates contact, and arrows indicate movement of the hand. The following abbreviations and symbols have been used in the transcriptions:

On the line glossing the signs: INDEX-1, first person pronoun; INDEX-2, second person pronoun; INDEX-3, third person index pronoun; INDEX-left, index point to a specific location; POSS, possessive.

On the line noting the nonmanual signals: \_\_\_q, interrogative; \_\_\_pol-q, polar question; \_\_\_cont-q, content question; \_\_\_top, topicalization; \_\_\_neg, headshake negation; \_\_\_nod, single head nod.

The Signed English version closely follows the word order of the English translation and includes an artificially invented sign ARE, since Indo-Pakistani Sign Language has no copula forms. The idiomatic expression from Indo-Pakistani Sign Language does not involve a direct translation of any of the words used in the English sentence and is accompanied by an obligatory facial expression marking the utterance as a polar question (pol-q).

The type of signing known by names like Signed English, Signed Japanese, Dutch in Signs, and so on, is quite different from the natural signed language that is the target of this study. Unlike a natural signed language, such a system is not a language in its own right, but represents a manual code for the spoken language of the majority nondeaf community and is thus a secondary sign system. It is generally not used by deaf people in communication with each other but is used in educational settings and in communication with hearing people. In the countries where such systems exist, however, signed-language users are often bilingual in the two modes of signing, and this can be an important avenue for indirect language contact between the signed and the spoken language, mediated through the use of the signed code that represents spoken-language structure (cf. §6.2 on question particles in signed and spoken languages). The distinction between the two types of signing is also an important consideration for the evaluation and analysis of signed-language data (see §3.1 about methodology).

**2.4. SIGNS, GESTURES, AND ICONICITY.** The relationship between signs and gestures is at present rather poorly understood and documented. Signed-language linguists have long avoided seriously tackling this issue because, especially in the initial stages of signed-language research, it was of great importance for the validation of signed languages to demonstrate that signs were not ‘only gestures’ and that signing was not ‘just pantomime’. Therefore, discussing gesture has long been a difficult matter in signed-language linguistics, and a similar problem applies to the status of iconicity in signed languages.

Gestures, though using the hands, head, and face for communicative purposes as signed languages do, are quite distinct from signs used in primary signed languages (McNeill 2000). Used together with a spoken language, gestures are for the most part an accompaniment to speech, and they are usually regarded as being outside the linguistic system of the spoken language with which they cooccur. However, it is obviously more difficult in the signed modality than in the spoken modality to distinguish between signs and gestures because both are realized in the same medium. Moreover, there is often a historical relationship between gestures and signs, so that individual conventional gestures used in a certain region tend to be incorporated into the signed language used in the same region. When a gesture becomes a sign, its properties change, because as a sign it forms part of the linguistic structure of the signed language and thus becomes subject to grammatical rules operating in the signed language (see Zeshan 2003 on the grammaticalization of gesture in signed languages). For example, a familiar gesture for ‘money’ in many countries consists of rubbing together the thumb and one or more fingers. In Indo-Pakistani Sign Language, the sign MONEY looks very much like this gesture. Unlike the gesture, however, the sign can be turned into a verb by adding a movement directed from the person paying to the person being paid, giving the meaning ‘to pay (someone)’. Moreover, a number of other signs, including the sign RICH and the sign INFLATION, can be derived from the sign MONEY by changing its movement pattern. The corresponding gesture as used by hearing people in the region, of course, has none of these derivations and follows no grammatical rules.

There are various types of gestures that seem to enter signed languages in a variety of lexical and grammatical functions, and not all gestures are necessarily iconic. For the purpose of this article, we can ignore complex constructions and concentrate on the relationship between individual manual gestures and individual signs, as exemplified by the above example from Indo-Pakistani Sign Language. This relationship is important for understanding the origin and development of certain interrogative signs that are derived from corresponding gestures (see §5.1).

The status of iconicity in signed languages is certainly one of the important typological differences between signed and spoken languages, though the difference is gradual rather than categorical (Zeshan 2002). Armstrong (1983) argues that the main reason for the more extensive iconicity that we find in signed languages lies simply in the fact that there is more to represent iconically in the visual than in the auditory medium. That is, iconicity naturally occurs in all languages, but signed languages have a greater potential for iconicity due to the visual modality. Various types of iconicity in signed languages have been described in Mandel 1977.

Many forms of iconicity are found in both signed and spoken languages, but they are more prominent and striking in signed languages. When a sign for 'house' consists of two open hands forming a triangular shape that resembles the shape of a roof, the sign is directly iconic of its referent, or rather, a prominent feature of its referent. This is equivalent to onomatopoeia in spoken languages, but is naturally much more extensive in signed languages. The iconic relationship between a sign and its referent may also be more abstract, for example when various repetitive movement patterns express iterative or continuative actions or plural number. Reduplication patterns also express similar concepts in many spoken languages. Finally, iconicity in signed languages often involves metaphors (Brennan 1990), which are again often similar to metaphors expressed by different means in spoken languages. For example, the head being the 'seat of cognition', meanings related to cognition are often expressed by signs articulated on or near the head, while concepts related to time often involve a wrist location in cultures where wristwatches are common.

To understand the nature of iconicity in signed languages, it is crucial to note that all iconic signs are nevertheless fully conventional units of the language. That is, there is no inverse relationship between the iconicity and the conventionality of a sign, and the two notions are not opposed to each other. All signs, whether iconic or not, have a conventional form and meaning, and it is not possible to modify the form of a sign at will, even if a different form might seem iconically more suitable. In fact, iconicity is irrelevant to communication between users of signed languages most of the time; that is, it is not necessary to be aware of the iconicity of a sign in order to use it. The latent iconic potential of a sign may surface any time, but tends to do so only in particular situations such as word play or poetic forms of signing or linguistic elicitation.

**2.5. SIGNED-LANGUAGE FAMILIES.** AS with spoken languages, in principle, relationships between signed languages can be of two types: genetic and contact-induced. Both types are important for this article, but at the same time, the issues in this domain are not yet well understood at the present stage of signed-language research. There has been no principled account of how to establish a signed-language family by linguistic criteria, comparable to the historical-comparative method used for spoken languages. In fact, it may well be impossible to apply the same method to signed languages for a number of reasons. For example, no process comparable to regular sound change has been identified in any signed language to date, and no historical reconstruction of

earlier sign forms has been attempted. Therefore, the usual way of positing relationships between signed languages is to rely on historical information about the development of signed languages and deaf communities. The evidence here is often of a more anecdotal nature rather than the result of specific linguistic or historical research, which has yet to be undertaken in almost all cases, in particular in developing countries. Where historical connections are not known or are yet to be discovered, there is currently no established way of positing genetic relationships between signed languages, since no internal linguistic criteria have been established in this regard. Similarly, there is no general consensus on how to assess whether two signed varieties should be regarded as separate languages or as dialects of one and the same language.

Historically, relationships between signed languages occur under a range of different circumstances, and it is not always clear whether the relationship should be considered genetic in the usual sense or should be regarded as the result of language contact, or whether it constitutes a novel kind of situation that is not usually found among spoken languages. This problem cannot be addressed in detail here, so I present only a few examples to illustrate some of the possible factors involved in this issue. The most straightforward case seems to be a situation where groups of users of a signed language migrate to a different region and do not come into contact with any preexisting signed language in that region. This seems to be the case for the British Sign Language family, which includes, besides British Sign Language itself, signed languages in Australia and in New Zealand. But these three varieties could also be considered dialects rather than different languages (Johnston 2000). In other cases, it is assumed that a signed language spread to a region with one or more preexisting indigenous signed languages, and that a new signed language resulted from a subsequent creolization process. Thus it is assumed that American Sign Language has its roots in an old form of French Sign Language as well as indigenous signed varieties that existed prior to the spread of Old French Sign Language in the United States (Baker-Shenk & Cokely 1996). Some signed languages have been subject to multiple influences, as in the case of Israeli Sign Language, which was strongly influenced by German Sign Language but has probably also had influences from other European and Middle Eastern countries (Irit Meir, p.c.). The history of signed languages is often closely tied to the development of education for the deaf, leading, for instance, to associations between signed languages in Sweden and Finland, Denmark and Iceland, and France and Russia. Another related factor is the historical existence of colonial relationships, as in the Japanese Sign Language family, which includes signed languages in South Korea and in Taiwan but not in mainland China. Across Africa, signed languages are linked to a number of European and North American signed languages (Schmaling 2001), usually as a result of the establishment of schools for the deaf with the help of resources from these countries. In the absence of detailed information, however, it is difficult to assess whether this relationship should be considered genetic, or whether it involves language contact between foreign and indigenous signed varieties, or whether a given variety should be regarded as a dialect of its source language rather than as a separate language. Finally, in regions with a strong tradition of gestural communication, such as the Indian subcontinent, the incorporation of conventional gestures has played an important part in the genesis of the signed language. Indo-Pakistani Sign Language seems to be a truly indigenous signed language, and it is of course always possible for a signed language to arise on its own, without any major influence from abroad.

So far signed-language research has not developed a principled way of distinguishing between the various types of relationships mentioned above, and often basic information

about the situation is lacking. The effects of language contact between signed languages are also poorly understood at present. Therefore, it is not at all clear how the various situations should be assessed from the point of view of signed-language families. Much more research needs to be done in this area. For the purpose of this article, however, it is sufficient to note that the signed languages appearing here are at least not all genetically related to each other and do represent several distinct groupings, even though it is not clear in every case how exactly a given signed language is related to another one.

### 3. METHODOLOGICAL ISSUES

**3.1. METHODOLOGY FOR THIS STUDY.** Since the study reported on here is the first of its kind, it seems worthwhile to go into some detail about its design and methodology. In particular, typological research on signed languages involves a number of methodological problems that are not typically encountered in similar research on spoken languages, but that are important here for assessing the benefits as well as the limitations of the study. Both interrogative and negative constructions were investigated in the study, and the methodology is essentially the same in both cases, but only data from interrogative constructions are discussed in this article. For details on negative constructions across signed languages, see Zeshan 2004.

In the initial phase of the project, I developed a set of parameters for negatives and interrogatives to be investigated across signed languages, largely derived from available typological literature on spoken languages (e.g. Chisholm 1984, Payne 1985, Kahrel & van den Berg 1994). Many topics and constructions that have been the focus of crosslinguistic studies on negation and questions in spoken languages can straightforwardly be transferred to signed languages. Signed languages themselves have so far not figured in any crosslinguistic typological study, and therefore a number of parameters had to be developed that are not typically considered in typological literature on spoken languages. This includes, for example, the relationship between signs and gestures and the role of nonmanual signals in the grammar of signed languages.

The parameters of investigation were subsequently turned into detailed questionnaires designed to elicit the kind of information that was to be the focus of this study. The answers to these questionnaires, compiled by co-researchers around the world, constitute the most important part of the data, most of which have never been published before. These and other data that were used in the study are described in detail in §3.2.

The interrogative parameters that concern us here cover a number of domains. The principal division is between the two major types of questions, polar questions (also known as yes/no-questions, e.g. Engl. *Are you going?*) and content questions (also known as WH-questions, e.g. Engl. *Where are you going?*). Crosslinguistically, polar questions are most often marked in one of three ways (or a combination of these): by intonation, by question particles, or by a particular syntactic construction such as a modified constituent order or the doubling of a constituent. All of these were investigated with respect to signed languages. For content questions, question words were a major parameter to be studied. The subparameters here include the paradigm of question words, their syntactic position, and their combinatory possibilities, as well as their relationship to indefinites and relative pronouns. Question particles occur mainly in polar questions in signed languages, but they can sometimes be found in content questions as well. In both cases, their distribution, status, and syntactic position were investigated for the crosslinguistic study. Finally, the pragmatics of questions involve topics such as how people introduce and answer questions, how particular types of questions are used, and whether questions can function as polite commands.



It would be beyond the scope of this article to cover the entire domain of interrogative constructions. For the purpose of this first survey, I limit myself to discussing the main mechanisms for marking polar questions and content questions across signed languages, as well as important typological and theoretical implications emerging from the data.

The nature of a first typological study on signed languages involves particular methodological problems that do not usually occur in typological surveys on spoken languages. These involve both the method of data collection and the nature of the data. Because of the novelty of this kind of research, it was not possible to use published linguistic literature as the only or even the main source of data. Literature on questions and negation in signed languages is rather scarce and is limited mostly to some of the better-documented signed languages in Europe and North America. Thus, at the present time it is not possible to cover a sufficient number of signed languages on the basis of published sources. Therefore, the project relied on co-researchers working with questionnaires for generating a substantial part of the data. In such a situation, it is essential that all co-researchers work within a common framework and terminology. To this effect, all terms were explained in the questionnaires at the beginning of each section and illustrated with examples. Moreover, many of the questions were phrased so as to offer definite options to choose from rather than being open-ended. For example, rather than asking for the set of clause negators, there was a list of possible negators (existential, contrastive, completive, and so on) for co-researchers to choose from for their own signed language. Finally, participants also received sample answers to the questionnaire, where all questions had been answered for Indo-Pakistani Sign Language, one of my own fieldwork languages.

The issue of how to represent a signed language on paper was discussed in §2.2. The same conventions were suggested to and chosen by most co-researchers in their answers to the questionnaire. In order to include at least some visual data from as many signed languages as possible, co-researchers were asked to provide some sort of graphic representation of the most important signs, such as question words and negators. Most participants supplied pictures of signs or even transcribed videotaped data from their target language, but in some cases, only verbal descriptions of signs were available.

Another methodological problem arises in those countries where a primary signed language coexists with a signed code for a spoken language, as explained in §2.3. Since the study looks only at natural, primary signed languages, influences from secondary signed codes for spoken languages such as Signed English need to be avoided. This concerns, in particular, another type of data that is usually avoided in signed-language research and consists of individual sentences translated from a spoken language into a signed language. During an international conference in 1999, I videotaped signers from several countries, working from a list of negative and interrogative sentences to translate into the signed language. It was possible to transcribe most of these data afterwards. Because of the artificial elicitation situation and the translation process involved, there is a danger of 'contamination' of the signed-language data from the secondary signed code. Moreover, in many countries where such a system is used, deaf people perceive it as belonging to a more formal register and therefore more adequate to use in an elicitation situation. This may severely compromise the value of data obtained in such a situation. Therefore, data of this type have been used only where the information derived from them could also be independently confirmed from other sources.

In a situation where most signed languages of the world are undescribed or severely underdescribed, the procedure of choosing a representative sample of languages, which usually needs to be considered in spoken-language typology, becomes unfeasible. Due

to the general scarcity of information about most signed languages in the world, any and all available data have been incorporated into the study. Therefore, some regions, in particular European countries, are necessarily overrepresented, while other regions, in particular Africa and South America, are underrepresented in the data. A geographically and genetically balanced sample of signed languages that would still be large enough to allow for any meaningful conclusions is just not possible at the current stage of research into signed languages. As explained in §2.5, determining genetic relationships between known signed languages is itself a highly contentious issue.

The unequal distribution of signed languages in the data also means that the significance of generalizations in terms of numerical values—in either absolute numbers or percentages—cannot be assessed. I therefore do not draw any conclusions from the data in numerical terms but limit myself to demonstrating the range of linguistic variation that can be found across signed languages, although I do sometimes refer to the relative frequency of the phenomena discussed.

**3.2. DATA.** The data used for the crosslinguistic study fall into three main categories: questionnaires, publications, and my own fieldwork and research. For some signed languages, more than one type of data has been available. An overview of the data from thirty-five different signed languages is presented in Table 1. The data were entered into a Microsoft Access database, except for those signed languages for which information was too scarce to warrant inclusion. The database was used as an analysis tool and is still being expanded as new data become available. Since the original collection of the material, I have been continuously following up on signed-language data at every available opportunity, and it was possible to review data with consultants from several countries (United States, Thailand, Spain).

A total of nineteen questionnaires were collected for the study. Of these, eight questionnaires contained text only, four included pictures (drawings or video frames), and seven included video data accompanied by a transcription. Most questionnaires were completed by teams of native signed-language consultants and hearing linguists (Denmark, Finland, Hong Kong, Israel, Spain, South Korea, Belgium, New Zealand). A special questionnaire designed for nonlinguists was provided for some deaf participants from Ireland, Kenya, Tanzania, and Uganda. In three cases (Australia, Greece, Brazil) the participants were hearing researchers who have deaf parents and are thus native users of the signed language, and three hearing researchers participated on their own (Japan, Iceland, Taiwan).

Publications were either in the form of books and research articles (fifteen languages), or in the form of signed-language dictionaries (six languages). In working with published sources, the intention was to extract descriptive accounts of the constructions in questions, ignoring, as far as possible, any formalist or theoretically motivated slant on the data. The reference section at the end of this article lists references only for the data actually included in the article rather than giving a comprehensive list of all published sources used for the project.

Finally, my own data include extensive materials, in particular transcribed video data, from fieldwork in India/Pakistan, Turkey, and Lebanon, as well as the translated signed sentences (from Thailand, Tanzania, Kenya, and Russia) that were mentioned in the previous section. Because of the shortcomings of this methodology, the data from the translated signed sentences were used only inasmuch as they could be independently verified from other sources.

A substantial part of the data is the result of a true and unique group effort, and the contributions made by the many co-researchers around the world (see acknowledge-

SIGN LANGUAGE	COUNTRY/REGION	TYPE OF DATA
American Sign Language (ASL)	U.S., Canada except Québec	published material
Auslan	Australia	questionnaire (text, with ref. to dictionary); dictionary (pictures, video clips)
British Sign Language (BSL)	Great Britain	published material
Chilean Sign Language	Chile	published material (negation only)
Dansk Tegnsprog	Denmark	questionnaire (text, pictures from dictionary)
Deutsche Gebärdensprache (DGS)	Germany	publication
Finnish Sign Language (Suomalainen viittomakieli)	Finland	questionnaire (text, video frames from dictionary, video with transcription)
Greek Sign Language	Greece	questionnaire (text)
Hong Kong Sign Language	China (Hong Kong)	questionnaire (text, video with transcription)
Íslenskt Tákniál (Icelandic Sign Language)	Iceland	questionnaire (text, video with transcription)
Indo-Pakistani Sign Language	India/Pakistan	sample questionnaire (text, pictures); own fieldwork
International Sign	N/A	published material (negation only)
Irish Sign Language	Ireland	questionnaire (text, video with transcription)
Israeli Sign Language	Israel	questionnaire (text, video with transcription)
Kenyan Sign Language	Kenya	questionnaire (text); dictionary; own video elicitation
Langue des Signes Française (LSF)	France	published material; dictionary
Langue des Signes Québécoise (LSQ)	Canada (Québec)	published material
Lengua de Señas Argentina	Argentina	published material
Lengua de Señas Española	Spain except Catalonia	questionnaire (text, video with transcription)
Lingua Gestual Portuguesa	Portugal	published material
Lingua Italiana dei Segni (LIS)	Italy	published material (interrogatives only); dictionary
Língua de Sinais Brasileira	Brazil	questionnaire (text, video frames)
Nederlandse Gebarentaal	Netherlands	published material
New Zealand Sign Language (NZSL)	New Zealand	questionnaire (text, video frames)
Nihon Shuwa (Japanese Sign Language)	Japan	questionnaire (text); published material
Norsk Tegnspråk	Norway	published material
Russian Sign Language	central part of Russia	published material; own video elicitation
South Korean Sign Language	South Korea	questionnaire (text)
Svenska Teckenspråket	Sweden	published material
Taiwanese Sign Language (Ziran Shouyu)	Taiwan	questionnaire (text; interrogatives only)
Tanzania Sign Language (Lugha ya Alama Tanzania)	Tanzania	questionnaire (text); dictionary; own video elicitation
Thai Sign Language	Thailand	dictionary; own video elicitation
Türk İşaret Dili	Turkey	own fieldwork
Ugandan Sign Language	Uganda	questionnaire (text, video with transcription)
Vlaamse Gebarentaal	Flemish part of Belgium	questionnaire (text)

TABLE 1. Data used in the typological project.

ments) cannot be valued highly enough. Without the large amount of data that were specifically generated for this project, a broad sample of signed languages from around the world would not have been feasible. The remaining sections of this article describe some of the findings that have emerged from the project.

**4. MARKING OF POLAR QUESTIONS.** This section discusses the main types of markings for polar questions in signed languages, as well as the realization and distribution of these markings across the signed languages in the data. Because of the critical importance of nonmanual signals in signed languages, I begin by explaining this phenomenon. Its realization in polar questions is discussed in §4.2; §4.3 deals with ways of marking a polar question manually, through question particles or syntactic mechanisms.

**4.1. NONMANUAL SIGNALS IN SIGNED LANGUAGES.** Nonmanual activities during signing are of paramount importance in all known signed languages and are an integral part of signed-language grammar. In particular, clause types such as various types of questions, negatives, conditionals and other subordinate clauses, and topicalizations are marked by particular combinations of nonmanual signals (Liddell 1980 for American Sign Language, Coerts 1992 for Nederlandse Gebarentaal (Netherlands), Zeshan 2000 for Indo-Pakistani Sign Language, Bergman 1984 for Svenska Teckenspråket (Sweden)). Nonmanual signals include features like eyebrow raising, headshakes and head nods, eye gaze, and head/body posture.

The use of nonmanual activities for grammatical purposes is called **NONMANUAL MARKING**. Signed languages differ in the actual form of nonmanual marking employed for a given construction, as well as in the grammatical rules that govern its use. An important parameter in this regard is the notion of scope, which has a specialized technical meaning in signed-language linguistics. A nonmanual marker has scope over all manual signs with which it cooccurs. Conversely, all manual signs that cooccur with a nonmanual marker are said to fall under its scope. The scope of a nonmanual signal is indicated by a labeled line on top of the sign glosses in capital letters. It is possible to have more than one nonmanual marker in a sentence, each with its own independent scope over manual signs, as in 3.

- (3) Indo-Pakistani Sign Language  
 \_\_\_\_\_ pol-q  
 \_\_\_\_\_ neg  
 INDEX-2 SIGN LIKE NOT  
 'Don't you like sign language?'

In this utterance, the whole sentence is marked as a polar question (by a head forward position, wide open eyes, and eye contact), but only the last two signs fall under the scope of the nonmanual negation, realized by a headshake. During the last two signs, the headshake cooccurs with the nonmanual signal for the polar question.

Nonmanual marking in signed languages is equivalent to intonation in spoken languages (Sandler 1999). Both are suprasegmental, spreading over a variable number of words in the clause, and both fulfill a similar range of functions. This is particularly evident in the case of polar questions, since many spoken languages mark the difference between a statement and a corresponding polar question by intonation, as in ex. 4 from Hindi (the line above the sentence indicates the intonation contour).

(4) Hindi

- a. bacca bemar hai  
 child ill be.3SG.PRES  
 'The child is ill.'
- b. bacca bemar hai  
 child ill be.3SG.PRES  
 'Is the child ill?'

With falling intonation, this sentence is interpreted as a statement (4a), whereas rising intonation turns the same sentence into a polar question (4b). Similarly, the signed sentence in 3 would be interpreted as a statement ('You don't like sign language') if the nonmanual marking for polar question were left out.

In signed languages, polar questions are invariably marked by 'intonation' in the form of nonmanual signals (§4.2). Nonmanual signals also play a somewhat less important role in the formation of content questions in signed languages, especially in content questions without question words (§5.6).

**4.2. NONMANUAL MARKING OF POLAR QUESTIONS.** All signed languages in the data employ nonmanual marking for polar questions. Nonmanual signals marking polar questions tend to be very similar across signed languages. The marking typically involves a combination of several of the following features:

- eyebrow raise
- eyes wide open
- eye contact with the addressee
- head forward position
- forward body posture

The difference between a statement and a corresponding polar question in Indo-Pakistani Sign Language is exemplified in 5a and b. Note, in particular, the difference between the two realizations of the sign INTERESTING (see Figures 1 and 2).

(5) Indo-Pakistani Sign Language

- a. top  
 BOOK INDEX INTERESTING  
 'As for the book, it is interesting.'



top  
 BOOK INDEX INTERESTING  
 'As for the book, it is interesting.'

FIGURE 1. Statement in Indo-Pakistani Sign Language.

- b. \_\_\_\_\_ pol-q  
 BOOK INDEX INTERESTING INDEX  
 ‘Is the book interesting?’



- \_\_\_\_\_ pol-q  
 BOOK INDEX INTERESTING INDEX  
 ‘Is the book interesting?’

FIGURE 2. Polar question in Indo-Pakistani Sign Language.

In 5a, the eyebrows are raised during the first two signs of the sentence, indicating a topic, but the predicate *INTERESTING* remains unmarked. By contrast, 5b is marked as a polar question by a nonmanual configuration cooccurring with the predicate and the following index finger point (see §4.3 on pronominal index points in polar questions). In Indo-Pakistani Sign Language, the marking for polar questions consists of a forward head position, sometimes with the body also leaning forward, open eyes, and eye contact with the addressee. There is no eyebrow raise in 5b because raised eyebrows occur only in particular subtypes of questions, such as echo questions, in Indo-Pakistani Sign Language.

The general pattern of nonmanual marking listed above is complicated by various factors that cannot be treated in any detail here. These include absence of eye contact with the addressee in reported questions (Vogt-Svendsen 1990a, Coerts 1992:108f.), lowering instead of raising of the eyebrows in pragmatically marked questions (e.g. for expressing doubt, Moody et al. 1983:91f.), and different nonmanual marking in rhetorical questions (Baker-Shenk & Cokely 1996:137ff.), to name just a few. In addition to the nonmanual features, the last sign in a question is often held longer than usual in its final position.

The scope of nonmanual marking for polar questions is typically either the whole clause (see 9–12) or the whole clause minus any topicalized constituents. Topics are either themselves marked by a particular facial expression (ex. 6 from Icelandic Sign Language) or are left unmarked, as in Indo-Pakistani Sign Language, where it is the absence of nonmanual marking that characterizes most kinds of topics (ex. 7). Particular subtypes of questions may have different scope regularities. In tag questions, for example, the interrogative facial expression cooccurs with the tag only (ex. 8 from British Sign Language), and in Hong Kong Sign Language, questions with question particles have nonmanuals cooccurring with the question particle only (see the examples in §6.2).

- (6) Íslenskt Táknmál (Iceland)

- top \_\_\_\_\_ pol-q  
 WOMAN INDEX-left SIT-left SISTER INDEX-2  
 ‘The woman sitting over there, is she your sister?’

## (7) Indo-Pakistani Sign Language

\_\_\_\_\_ pol-q

INDEX-2 WOMAN SIBLING MARRY COMPLETIVE

'Your sister, has she got married?'

## (8) British Sign Language

\_\_\_\_\_ pol-q

LAST-YEAR WENT FRANCE TRUE

'You went to France last year, didn't you?' (Sutton-Spence & Woll 1999: 67)<sup>2</sup>

Crosslinguistically, it is interesting to note that while the features used for various types of nonmanual marking are very similar across signed languages, their status and scope can be markedly different. The status of a grammatical facial expression mainly refers to how obligatory it is, but also to its combination with manual signs. Crosslinguistic differences in status and scope of nonmanuals are particularly striking in negatives, where the use of a headshake for negation is pervasive, but has quite different properties in different signed languages (Zeshan 2004). For polar questions, differences between signed languages are less important.

**4.3. MANUAL MARKING OF POLAR QUESTIONS.** Other than by facial expressions, polar questions may also be marked by question particles. Although this is not infrequent across signed languages, question particles are never obligatory for all questions. In the available data, they always cooccur with nonmanual marking, and they are always either entirely optional or used in particular subtypes of polar questions only. Sometimes a question particle can be used in both polar and content questions. I discuss question particles in detail in §6.

Syntactic changes in polar questions are not obligatory either in any signed language in the data. For the purpose of this study, two syntactic mechanisms that occur in spoken languages to signal polar questions were investigated: changes in constituent order (such as English S-V inversion) and doubling of constituents (such as the Mandarin Chinese A-not-A-construction). In no signed language have such mechanisms been found to be obligatory. There is, however, a pattern that optionally occurs in polar questions with some frequency and that involves pronouns. In signed languages, the equivalents of spoken language pronouns are typically expressed by pointing with the index finger, where pointing at oneself means 'I', pointing at the addressee means 'you', and pointing elsewhere in space has third person reference. In a number of signed languages, pronouns tend to be either shifted to the end of the clause or repeated clause finally in polar questions. Pronouns can also occur clause finally in declaratives, but unlike in polar questions, there is no particular preference for this word order. Similarly, doubling of pronouns is possible in declaratives, but then tends to convey emphasis, which is not necessarily true in polar questions. Examples 9–12 illustrate the use of pronouns in polar questions.

## (9) Thai Sign Language

\_\_\_\_\_ pol-q

SMOKE INDEX-2

'Do you smoke?'

<sup>2</sup> A reference is added to examples taken from publications. Unmarked examples are taken from the questionnaire responses compiled by co-researchers or from my own fieldwork data.

- (10)  $\frac{\text{pol-q}}{\text{INDEX-2 DEAF INDEX-2}}$   
 'Are you deaf?'
- (11) Langue des Signes Française (France)  
 $\frac{\text{pol-q}}{\text{TONIGHT FREE INDEX-2}}$   
 'Are you free tonight?' (Moody et al. 1983:144)
- (12)  $\frac{\text{pol-q}}{\text{INDEX-2 STAY HOME INDEX-2}}$   
 'Are you staying home?' (Moody et al. 1983:91)

The only signed language in the data with doubling of constituents other than pronouns is Hong Kong Sign Language. Here the main verb may be doubled when the predicate is being questioned. Again, this is optional. Note that nonmanual marking is labeled 'q' rather than 'pol-q' in the examples because the facial expression can be the same in both polar and content questions.

- (13) Hong Kong Sign Language  
 $\frac{\text{q}}{\text{INDEX-2 PLAY PLAY}}$   
 'Are you playing/going to play?'
- (14)  $\frac{\text{q}}{\text{INDEX-2 GO GO PLAY}}$   
 'Will you go to play?'

**5. CONTENT QUESTIONS.** Content questions in signed languages provoke a number of interesting analytical issues. With respect to question words, these concern the size and structure of question-word paradigms, the lexical and grammatical distinctions expressed in such paradigms, related interrogative and noninterrogative uses of question words, and the syntactic position of question words in the clause. Moreover, there is the intriguing phenomenon of content questions without question words. These are all taken up in this section.

**5.1. QUESTION-WORD PARADIGMS.** Paradigms of question words can be radically different from one signed language to another, in terms of both size and the distinctions that are lexicalized as question words. Indo-Pakistani Sign Language basically has a minimal paradigm with only one question word that covers the entire range of interrogative meanings and that has to be combined with noninterrogative signs to express specific question words.<sup>3</sup> General interrogatives of this kind occur in a number of unrelated signed languages and are attested for South Korean Sign Language, Nihon Shuwa (Japan), Hong Kong Sign Language, Indo-Pakistani Sign Language, Israeli Sign Language, Kenyan Sign Language, *Língua de Sinais Brasileira* (Brazil; Quadros 1999: 192–212), *Lengua de Señas Argentina* (Argentina), *Lingua Italiana dei Segni* (Italy; Radutzky et al. 1992:589), American Sign Language (Baker-Shenk & Cokely 1996: 129f.), *Deutsche Gebärdensprache* (Germany; Sauer et al. 1997:63f.), *Nederlandse Gebarentaal* (Netherlands), and New Zealand Sign Language, with a few more cases of unclear status not included here.

A general interrogative always includes the interrogative 'what' as its most basic meaning and then covers the rest of the interrogative paradigm more or less completely.

<sup>3</sup> Some Indian dialects of Indo-Pakistani Sign Language have a second monomorphemic question word, which seems to be historically related to a combination with the general interrogative. Moreover, some dialects in southern and eastern India use an additional regional variant of the general question word.



This results in three different kinds of situations: (i) the general interrogative covers the whole question-word paradigm, (ii) the general interrogative covers part of the question-word paradigm, and (iii) the general interrogative exists alongside an extensive question-word paradigm.

In a number of Indo-Pakistani Sign Language dialects, the general interrogative is the only question word available and may translate into any question word. The sign has the same form as a corresponding gesture used in the region and obviously derives from the gesture, but in the signed language it can be combined with a number of noninterrogative signs to form complex question expressions, such as TIME + INTERROGATIVE 'when', NUMBER + INTERROGATIVE 'how many', or FACE + INTERROGATIVE 'who'. This is used when signers want to be specific about the intended question word.

Língua de Sinais Brasileira (Brazil) is an example of the second possibility, where the general interrogative covers only part of the question-word paradigm and specific interrogatives are used for other meanings. In this signed language, 'how', 'why', and 'how many' have their own interrogative signs, while all other meanings are covered by the general interrogative. In Nihon Shuwa (Japan), the general interrogative can be used to mean 'what', 'where', 'how', and 'why', but not 'who', 'when', and 'how many'. Finally, a signed language may have an extensive question-word paradigm and also have a general interrogative in addition to the specific question words. This is the case in American Sign Language (Baker-Shenk & Cokely 1996:129f.).

In New Zealand Sign Language (NZSL), there has been a particularly interesting historical development in the question-word paradigm. NZSL currently has two signs for 'what', an older one and a newer one, as well as a whole range of specific question words. The older 'what' is derived from a gesture with the palms of the hands turned to face upwards. The core meaning of this palms-up gesture seems to be an expression of uncertainty, which may be translated as 'I don't know', 'no idea', and the like. The older sign for 'what' used to be a general interrogative, very much like in present-day Indo-Pakistani Sign Language. However, the introduction of a 'Total Communication' educational policy, which included the use of signs, has resulted in the addition of specific interrogatives leading to the present-day paradigm. Consequently and, as it seems, under the pressure of the new interrogatives, the older general interrogative has retreated to its core function and is now used mainly in its core meaning 'what', although it can still be used for 'where' and 'how', and sometimes for 'why'.

Many other signed languages have a fairly large paradigm of question words, though their semantics vary considerably across languages. Most signed languages have question words for at least 'what', 'who', 'where', and 'when', while 'which', 'why', and 'how' are less common and are often subsumed under the sign for 'what'. 'How many' is often expressed by a noninterrogative sign meaning 'number', 'many', or 'count'. Some signed languages, such as Hong Kong Sign Language, Israeli Sign Language, and Língua de Sinais Brasileira (Brazil), use a mixture of strategies with general interrogatives and their combinations as well as specific question words, and so end up with a medium-size question-word paradigm.

Apart from the interrogatives mentioned so far, various signed languages have lexicalized interrogative meanings that are less common crosslinguistically. Examples include signs for 'how about?' (Nihon Shuwa, Japan), 'what month and date?' (Hong Kong Sign Language; see Figure 3), 'what's this?' and 'from whom or where?' (Israeli Sign Language), 'what's the matter?' and 'what to do?' (Langue des Signes Française, France; Moody et al. 1983:135, 167), and 'how are you?' (Russian Sign Language; see Figure 4).



Two open hands held above each other, palms facing inward and finger tips facing sideward, with fingers wiggling.

FIGURE 3. WHAT-MONTH-AND-DATE (Hong Kong Sign Language).



Two open hands, palms facing downward and finger tips facing forward, move forward from the body with fingers wiggling simultaneously.

FIGURE 4. HOW-ARE-YOU (Russian Sign Language).

**5.2. SYNTACTIC POSITION OF QUESTION WORDS.** Across the signed languages in the data, the most common syntactic positions for question words are clause initial, clause final, or both, that is, a construction with a doubling of the question word (15). There are, however, several systematic exceptions to these regularities. In initial position, topics of whatever type always precede initial question words (16). It is also not uncommon for pronouns to precede an initial question word or follow a final question word. It seems that in many signed languages, the index finger pointing used for pronominal reference has quite different syntactic behavior compared with other signs, being very free as to its position in the clause, often repeated within a clause, and prone to cliticization (Zeshan 2002). So it is perhaps not surprising that pronouns should be exceptional in questions as well. Finally, if question particles are used in content questions, it is the question particle rather than the question word that occupies the initial or final position (17).

(15) Vlaamse Gebarentaal (Belgium)

\_\_\_\_\_ cont-q  
 WHY DOG BARK WHY  
 'Why is the dog barking?'

(16) top \_\_\_\_\_ cont-q

CAR WHERE BUY  
 'The car, where (did you) buy it?'

(17) Finnish Sign Language

\_\_\_\_\_ lowered brows  
 \_\_\_\_\_ head tilt

PAPER WHERE PALM-UP  
 'Where can I find some paper?/Where is the paper?'

In situ placement of question words can sometimes be indistinguishable from clause-initial and/or clause-final placement, and this was the case in the data for this study as well. To the extent that in situ placement could clearly be identified, it seems to occur less frequently across signed languages and may be subject to particular restrictions that cannot be covered in detail here. For example, in Hong Kong Sign Language only 'who' and 'what' can be placed in situ, and there are exceptions even to this limited distribution. Further studies are necessary to ascertain the extent of in situ placement of question words in signed languages.

Nihon Shuwa (Japan), Indo-Pakistani Sign Language, and American Sign Language are interesting in that they allow split interrogative constituents, as in 18 and 19.

(18) Nihon Shuwa (Japan)

cont-q

COLOR LIKE WHAT

'What color do you like?' (Fischer & Osugi 1998)

(19) Indo-Pakistani Sign Language

cont-q

CHILDREN COME NUMBER + INTERROGATIVE

'How many children came/are coming?'

Finally, Dubuisson and colleagues (1994) describe the position of question words in Langue des Signes Québécoise (LSQ, Canada) in very interesting and unusual terms, with the preferred constituent order being chosen on articulatory rather than syntactic grounds. They report that LSQ has quite free word order with respect to the placement of question words in questions, so that question words can appear in various positions in the clause. The most common positions are clause initial, clause final, or both of these, just like in the majority of signed languages around the world. Which of these is preferred in a given utterance, however, depends on factors that have nothing to do with syntax. Preferred constituent orders are those that result either in an overall movement away from the body, or in a consistent flow of movement in one direction throughout the clause. Orders that result in an overall zigzagging movement throughout the clause are avoided. This principle interacts with the location of the question signs themselves. Thus WHO is preferably clause initial because it is signed on the body, and WHAT is preferably clause final because it is signed away from the body. In both cases, this results in overall movement away from the body. The tendency of economy of movement is, however, overruled by another tendency, which is to place focused constituents in initial position. If this analysis of LSQ question words is correct, this kind of argumentation adds an entirely new dimension to a discussion of constituent order in content questions.

**5.3. INTERROGATIVE AND NONINTERROGATIVE USES OF SIGNS.** In a number of cases, one and the same sign has both an interrogative and a noninterrogative meaning. By far the most common case involves indefinite meanings, so that the well-known association between interrogatives and indefinites found in spoken languages (e.g. Bhat 2000) is also strongly attested in signed languages. Although for many signed languages in the data no information is available, interrogatives are associated with indefinites in Nihon Shuwa (Japan), Finnish Sign Language, Auslan (Australia), New Zealand Sign Language, and Língua de Sinais Brasileira (Brazil), and there may be more instances of the same kind that have not been documented. Table 2 gives examples from Finnish Sign Language, listing interrogative and noninterrogative uses of signs.

INTERROGATIVE FUNCTION	INDEFINITE FUNCTION	OTHER NONINTERROGATIVE FUNCTION
'who'	'someone'	
'what/where'	'something, somewhere'	
'where'	'somewhere'	
'when'		'every day, daily'
'why'		'because, that's why'
'which of two'		'one or the other, both of them'

TABLE 2. Interrogative and noninterrogative functions of signs in Finnish Sign Language.

Apart from interrogative-indefinite uses, there are a number of other associated interrogative and noninterrogative meanings that also tend to be similar across signed languages. Disambiguation between the two uses is by way of facial expressions; that is, the sign is interpreted as an interrogative if it is accompanied by nonmanual marking for content questions, and it is interpreted as noninterrogative in the absence of such nonmanual marking. While some signed languages, such as Auslan (Australia), Nihon Shuwa (Japan), and Israeli Sign Language, have a number of signs that can be used in both interrogative and noninterrogative ways, other signed languages do not seem to use this strategy at all. The most frequent uses across signed languages are listed in Table 3.

NONINTERROGATIVE MEANING	INTERROGATIVE MEANING	OCCURRING IN ... # OF LANGUAGES
'many/much'	'how many'	6
'age'	'how old'	6
'number'	'how many'	5
'reason'	'why'	5
'time'	'when'	5
'money/cost'	'how much money'	3
'manner'	'how'	3

TABLE 3. Associated interrogative and noninterrogative meanings across signed languages.

This set of signs partly overlaps with signs used in combinations with general interrogatives to express specific question words, such as the complex question expressions in Indo-Pakistani Sign Language mentioned in §5.1. Note that for 'what' and 'who', the only associated noninterrogative meanings are indefinites. For instance, there is no attested case of the same sign expressing both 'thing' and 'what' in any signed language.

**5.4. FORM OF INTERROGATIVE SIGNS.** A remarkable fact about question words in signed languages is the recurrence of particular forms or formational aspects in geographically and genetically unrelated sign languages. However, the reasons for this phenomenon are currently not well understood. One noticeable recurrent feature in many interrogatives across signed languages is repeated movement, which may take the form of the whole hand moving in space (path movement) or parts of the hand moving (internal movement), such as the fingers wiggling. While repetitive movement features are crosslinguistically very common with interrogatives, they are not common with noninterrogative signs that can also be used as question words, with the exception of signs for 'number' and 'counting' also used to mean 'how many'. With these, finger wiggling is particularly frequent, but it also occurs with other interrogatives less frequently, such as the signs in Figs. 3 and 4, WHEN and HOW-OLD in British Sign Language, or a variant of WHICH in Finnish Sign Language. Several interrogative signs in American Sign Language have variants with repetitive movement patterns, which may involve finger wiggling, as in a variant of the sign WHO. Repeated wrist

twisting and repeated contact between the thumb and one or several fingers also occur in several signed languages.

Repeated movement of the whole hand frequently takes the form of repeated to and fro movement of one or both hands, as illustrated in Figure 5 from Israeli Sign Language. The same interrogative form exists in other signed languages with a range of meanings, including general interrogatives and various specific question words. Other repeated movement patterns that are found with less frequency include repeated circles (e.g. WHERE in Lengua de Señas Española (Spain), WHEN in Tanzania Sign Language) and repeated alternating movements (e.g. WHICH in Nihon Shuwa (Japan), HOW in Irish Sign Language).



Upward extended index finger, slight to and fro movements from side to side.

FIGURE 5. WHO (Israeli Sign Language).

**5.5. GRAMMATICAL DISTINCTIONS IN QUESTION-WORD PARADIGMS.** Apart from the size and the semantics of question-word paradigms, it is interesting to see how grammatical distinctions are realized in question words. I discuss distinctions relating to the following: tense; person, number, and case; mass vs. count nouns, and specificity.

A number of signed languages have several question words or interrogative expressions that translate as English ‘when’, and some of these distinguish tenses. Many signed languages do not have grammatical tense, but use lexical time signs such as BEFORE, FUTURE, and the like at the beginning of each discourse paragraph where the temporal setting changes. Greek Sign Language, South Korean Sign Language, and Lengua de Señas Española (Spain) have separate expressions for ‘when in the future’ and ‘when in the past’. In South Korean Sign Language, this distinction is applied when talking about a specific time. ‘When’ in a general sense is covered by the general interrogative. Thai Sign Language has a slightly different opposition between a general temporal interrogative TIME + HOW-MANY ‘when, at what time’ and a future form LATER + HOW-MANY ‘when in the future’, both of which are compositional.

Note that for indicating future and past, reference may be made to a so-called time line. This involves a spatial metaphor, an imaginary line running through the signer’s body where the past is situated behind the shoulder, the present is located immediately in front of the body, and the future is also in front of the body, but further away (see Engberg-Pedersen 1993 on various types of time lines in Dansk Tegnsprog (Denmark)). In Lengua de Señas Española (Spain), an open hand moving backward over the shoulder or forward in front of the body indicates time reference. Positioning the hand close to the shoulder, for example, refers to recent past, while moving further backward over the shoulder indicates distant past. The distinctions that can be expressed in this way include past (that is, general past), recent past, distant past, future (that is, general

future), and distant future (Victòria Gras, p.c.). With the appropriate nonmanual marking, all of these temporal signs on the time line can be used as interrogatives, so that several temporal nuances of ‘when’ can be expressed. Figure 6 shows the signs ‘distant past/when in the distant past’ and ‘future/when in the future’ in Lengua de Señas Española (Spain). This paradigm also includes a temporal interrogative that means ‘from when on’ and runs from the ‘past’ section of the time line to the ‘present’ section.



Open hand, palm facing inward, finger tips pointing up, moves backward over the shoulder repeatedly.



Angled open hand, palm facing inward, finger tips facing sidward, moves forward in a spiraling motion.

FIGURE 6. ‘distant past/when in the distant past’ and ‘future/when in the future’ (Lengua de Señas Española (Spain)).

Signed languages that use a general interrogative in combination with more specific signs can also make further distinctions between temporal interrogatives beyond tense, such as in these examples from Língua de Sinais Brasileira (Brazil). Note that unlike in Indo-Pakistani Sign Language, the general interrogative here precedes the other sign.

(20) Língua de Sinais Brasileira (Brazil)

cont-q

INTERROGATIVE DAY INDEX-2 COME  
‘When (on which day) are you coming?’

(21) cont-q  
INTERROGATIVE TIME INDEX-2 COME  
‘When (at what time) are you coming?’

(22) cont-q  
INTERROGATIVE HOURS INDEX-2 WAIT  
‘How long (how many hours) did you wait?’

Person, number, and case marking in interrogatives is rather rare across the signed languages in the data, with one important exception. Signs for ‘which’ are sometimes restricted to dual number; that is, they can only be used to mean ‘which of two alternatives’. This restriction has been explicitly reported for the Icelandic and Finnish signed languages, but it may also hold for other signed languages for which there is no information about how the sign WHICH is used. In many signed languages, the sign WHICH involves either two extended fingers or the two hands moving alternately in some way. But the meaning of the sign can obviously become emancipated from the duality inherent in the form of the sign. For example, in Irish Sign Language the sign WHICH inflects for both person and number, with forms such as WHICH-plural ‘which of them’ (hand moving in a half-circle in the horizontal plane), WHICH-dual ‘which of the two’ (hand moving between two points in space), and so on. The same inflections can also apply to the sign WHO (‘who of them’, ‘who of us two’, and so on). In Íslenskt Táknaál (Iceland), one sign for WHO is unmarked for number, while another sign WHO-OF is used only with reference to several people (‘who of them’, ‘who of you

all'; see Figure 7). However, it seems that this distinction also involves specificity, that is, 'who of a specific group of people', rather than only number, as in 23.

(23) Íslenskt Táknmál (Iceland)

cont-q  
OLDEST BROTHER WHO-OF

'Who is the oldest of your brothers?' (i.e. 'Who out of the specified group of your brothers is the oldest?')



Extended index finger, finger tip pointing diagonally upwards, slight to and fro movements from side to side at chin location.



Extended index finger, finger tip pointing forward, moves in an arc in front of the torso from one side to the other and back.

FIGURE 7. WHO and WHO-OF (Íslenskt Táknmál (Iceland)).

Signed languages generally do not use case marking. Rather, they typically employ a head-marking mechanism, marking syntactic relations by mapping them onto the beginning and ending points of movement of the predicate sign. This is usually referred to as DIRECTIONALITY or spatially realized VERB AGREEMENT and is similar to multiple person marking by person affixes in spoken languages (Padden 1990). With question words, possessive 'whose' is often marked by the question word plus a possessive pronoun (thus for example in Irish Sign Language and in Dansk Tegnsprog, Denmark). In DGS (Deutsche Gebärdensprache, Germany), WHO is combined with a morpheme originating in the sign PERSON (transcribed WHO + PERSON) to express the equivalents of both German accusatives and datives. PERSON is accompanied by a silent articulation (so-called mouthing; see §5.6) of the German preposition *auf* ('on, upon'). Gender distinctions are not marked in interrogatives in any of the signed languages in the data, although gender marking does occur in other domains of the grammar within the Japanese Sign Language family, for example, with auxiliaries in Taiwanese Sign Language (Smith 1990).

Tanzania Sign Language has also lexicalized specificity distinctions in the question-word paradigm. This signed language has different signs for 'what, which, what kind of' in a general sense, such as in 'What (kind of) food do you like best?', and for 'which' in the sense of 'which one (of a particular given set)', such as in 'Which of the (particular given set of) dishes on the table do you like best?'. The difference between 'which' in the sense of 'what kind of' and 'which' in the sense of 'which one of a particular given set' is a difference in specificity.

Finally, a distinction between interrogatives referring to mass nouns and count nouns respectively (like English 'how much' and 'how many') is not expressed lexically in any of the signed languages in the data. The closest one may get to a mass/count distinction would be in South Korean Sign Language, where it was reported that the sign HOW is followed by either a COUNT particle ('how many') or a NONCOUNT particle ('how much'). Several signed languages have a particular way of expressing 'how much money', which may involve a sign for 'cost' or 'money' either by itself or in

combination with another question word. Other than this, no mass/count distinctions have been found in the data.

**5.6. CONTENT QUESTIONS WITHOUT QUESTION WORDS.** Across the majority of signed languages in the data, one sometimes finds content questions without question words. There are two major ways of marking such questions: by facial expressions (nonmanual marking) or by mouthing, an imitation of the mouth movements of a corresponding word from the spoken language.

Facial expressions generally accompany content questions even when a manual interrogative is present. Compared to nonmanual marking for polar questions discussed in §4.2, content question nonmanuals are crosslinguistically more variable with respect to their form, degrees of obligatoriness, and scope regularities. An interesting comparison between the use of content question nonmanuals in Nihon Shuwa (Japan) and American Sign Language is given in Fischer & Osugi 1998. Nihon Shuwa (Japan) has particularly interesting structures with a special type of nonmanual marking (wh') that can, among other possibilities, occur clause finally by itself.

(24) Nihon Shuwa (Japan)

wh'

COLOR LIKE

'What color do you like?' (Fischer & Osugi 1998)

Polar question and content question nonmanuals are different from each other in most signed languages. In Indo-Pakistani Sign Language, for example, polar questions are marked by wide-open eyes and a forward head position, while content questions are marked by raised eyebrows and a backward head position with raised chin. Facial expressions in content questions are often more closely associated with manual interrogatives than with other constituents. For example, in our Ugandan Sign Language data, content question nonmanuals most often have scope over the question word only, though when a signed language marks a content question nonmanually only, the scope is usually the whole clause.

Unlike for the items in Table 3 (§5.3), where the association between interrogative and noninterrogative meanings is conventional, inherent in the signs themselves, and specific, the interrogative meanings in 25–28 are left unspecified and are dependent on a specific context for their interpretation. Therefore, such questions usually occur only when the context is sufficiently clear. This is similar to saying something like 'Your name?', or even 'Name?' (with question intonation) in a spoken language, in a situation where it is clear that such a question might be asked.

(25) American Sign Language

cont-q

FATHER LEAVE

'Why/how/when did father leave?' (Petronio & Lillo-Martin 1997:36)

(26) Lengua de Señas Argentina (Argentina)

cont-q

MAN DETERMINER

'Who is that man?' (Veinberg, n.d.:15)

(27) Russian Sign Language

cont-q

INDEX-2 NAME INDEX-2

'What's your name?'



## (28) Nederlandse Gebarentaal (Netherlands)

\_\_\_\_\_ cont-q  
MY SUITCASE

‘Where is my suitcase?’ (Coerts 1992:275)

In a number of signed languages, a manual question word can be replaced by mouth movements derived from the equivalent question word in the spoken language (so-called mouthing; see Boyes Braem & Sutton-Spence 2001), though this is much less common than nonmanual marking. Rather than signing WHEN, for example, one would silently pronounce the word ‘when’ in whatever spoken language is used in the same region. This strategy does not occur in all signed languages and seems to be linked to the extent of oral education (articulation and lip reading) in the country. Therefore, mouthing substitutes occur in a number of Western signed languages and their derivatives but are entirely absent, for instance, in Indo-Pakistani Sign Language. In the following examples, mouthing is represented by words in double quotes.

## (29) Norsk Tegnspråk (Norway)

\_\_\_\_\_ cont-q  
OLD INDEX-2

“how”

‘How old are you?’ (Vogt-Svendsen 1990b:110)

## (30) \_\_\_\_\_ cont-q

SAY INDEX-2

“what”

‘What are you saying?’ (Vogt-Svendsen 1990b:110)

## (31) Nederlandse Gebarentaal (Netherlands)

\_\_\_\_\_ cont-q  
MONEY

“how much”

‘How much money is it?’ (Coerts 1992:135)

The extent and status of mouthing seems to be an important typological parameter in describing variation across signed languages, but has not so far been recognized as such. Among the signed languages in the data, Israeli Sign Language is particularly noticeable for the importance of mouthing in the question-word paradigm. The general question word can occur with Hebrew mouthings for ‘what’ and ‘why’, thereby disambiguating the specific meaning of the general interrogative. The sign for ‘number’ can mean either ‘how many’ or ‘when’, again depending on the accompanying mouthing. In New Zealand Sign Language, older signers still use a general interrogative whose meanings ‘what/where/how/why/when’ are specified by the accompanying mouthing. Younger signers use a different, expanded paradigm. Many other signed languages do not make use of mouthing to disambiguate question words.

**6. QUESTION PARTICLES.** Browsing the signed-language literature may easily give rise to the impression that question particles do not occur in signed languages, the canonical interrogative marking being by way of facial expressions. However, the data compiled for this study reveal that question particles are not uncommon at all. Depending on the interpretation of the data, between a fourth and a third of all signed languages in the data do have one or several question particles, though in a number of cases the data are not conclusive enough at present. In this section, I present data from those signed languages that show clear evidence of question particles. I define the notion of

question particles as used in the crosslinguistic study in §6.1, and I then present examples of question particles in individual signed languages in §6.2.

**6.1. QUESTION PARTICLES IN SIGNED LANGUAGES.** For the purpose of this study, question particles are defined as signs whose main function it is to indicate that an utterance is a question. It is not essential for our purposes that a question particle should be obligatory in all questions, and indeed this is not the case in any of the signed languages in the data. In this respect, signed languages are different from many spoken languages that use question particles in all utterances belonging to a particular grammatical question type. For example, a question particle generally occurs in all polar questions in spoken Turkish. In signed languages, though, it is common for the question particle to occur only in certain contexts that are often pragmatically constrained. Semantically, question particles are more or less bleached of any original lexical meaning they may have had, although they may retain associated pragmatic values.

Another factor in defining question particles for our purposes involves prosody. Prosodic units in signed languages are parallel to prosodic units in spoken languages, but their realization is of course quite different. It is possible to identify a prosodic hierarchy in signed languages involving units such as phonological words, phonological phrases, and intonation units (Sandler 1999). Some of the markers of an intonational break include pauses, changes in nonmanual activities such as facial expressions, head position, and body posture, certain patterns of interaction between the two hands, and eye blinking. Among these, nonmanual activity is particularly important and is crucial for understanding prosodic patterns in signed languages. For the purpose of the present discussion, a question particle is defined as occurring with the actual question in the same prosodic unit. If there is an intervening intonational break, the utterance is more likely to be a tag question. Thus in 32, there is an intonational break before the last sign, with only the last sign marked by interrogative nonmanuals. Therefore, the sign RIGHT is interpreted as a tag rather than a question particle.

(32) Auslan (Australia)

— pol-q

CLASS CANCEL TODAY, RIGHT

‘The class has been canceled today, right?’

Signed languages may also have pragmatic markers associated with questions that may be hard to distinguish from actual question particles. For example, *Lingua Italiana dei Segni* (LIS, Italy) has two ‘performative’ signs that are associated with questions (Celo 1996), but they seem to have primarily a pragmatic function and may be prosodically detached from the main interrogative clause, as in 33.

(33) *Lingua Italiana dei Segni* (Italy)

eyebrows up

body forward

body back

ALWAYS (pause) QUESTION-MARK

‘Will it be forever? (I don’t know/I’m not sure/I don’t believe it)’ (Celo 1996:143f.)

Question particles are also distinct from pragmatic question introducers such as ‘ask’ or ‘I ask you’, which is used in several signed languages, or ‘(you) don’t mind’ and ‘breach of etiquette’ used to introduce personal questions in *Nihon Shuwa* (Japan). At times the borderline between a pragmatic marker and a question particle is not easy to draw, given the fact that a question particle may preferably occur in a particular interrogative subtype, such as confirmation questions in Hong Kong Sign Language.

**6.2. OCCURRENCE OF QUESTION PARTICLES.** I now turn to some of the clearer cases of question particles in signed languages. It should be noted, however, that even here the data are often insufficient and much more research is needed in this direction. In most signed languages that do seem to have question particles, these are used only in polar questions, and in most cases there is only one such particle. Moreover, question particles are always either clause final (the preferred position) or clause initial, or they occur in both of these positions. The following examples are from European signed languages. The signs transcribed SI/NO and PALM-UP are question particles.

(34) Lengua de Señas Española (Spain)

\_\_\_\_\_ pol-q  
                  nod

INDEX-2 IN SCHOOL DEAF SI/NO

‘Do you go to a deaf school?’

(35) Finnish Sign Language

\_\_\_\_\_ lowered brows  
                  head tilt

PAPER WHERE PALM-UP

‘Where can I find some paper?/Where is the paper?’ (see Figure 8)



\_\_\_\_\_ lowered brows  
                  head tilt

PAPER                      WHERE                      PALM-UP

‘Where is the paper?’

FIGURE 8. The PALM-UP question particle (Finnish Sign Language).

The sign SI/NO occurs only in polar questions and is made with an extended index finger pointing forward and drawing first a vertical line (corresponding to ‘yes’) and then a horizontal line (corresponding to ‘no’). By contrast, the Finnish Sign Language question particle PALM-UP occurs in both polar and content questions. It consists of turning one or two open hands from a palm downward to a palm upward position.

It is particularly interesting to look at signed languages that have more than one question particle. This happens in Hong Kong Sign Language and Taiwanese Sign Language, two signed languages that are geographically close to each other but belong to different language families. Hong Kong Sign Language is of unknown genetic affiliation, probably related to other signed language varieties in mainland China, while Taiwanese Sign Language belongs to the Japanese Sign Language family. The region in Southeast and East Asia seems to be particularly rich in question particles, which may well have something to do with the spoken languages used in the same region. One of the question particles used in Hong Kong Sign Language is also found in Thai Sign Language. South Korean Sign Language also seems to have a question particle,

though the evidence is not quite clear, and a case may be made for a question particle in Nihon Shuwa (Japan).

Evidence from other regions of the world is often inconclusive. East African signed languages in Kenya and Tanzania both have possible candidates for question particles, but the evidence is too scarce to be conclusive. For signed languages from Europe and North America, the evidence is mixed, and it is often unclear whether a given sign might be classified as a question particle. It may well be that there are more instances than have been reported so far, and that it has simply not been the descriptive tradition to describe the signs in question in terms of question particles.

Hong Kong Sign Language has two clause-final question particles that are used in polar questions only: an existential and a nonexistential particle (see Figures 9 and 10). The sign in Fig. 9 can be accompanied by three different Cantonese mouthings, meaning 'right-not-right', 'good-not-good', and 'can-cannot'. The sign itself seems to be a quickly alternating repetition of signs or handshapes meaning 'good' (thumb extended) and 'bad' (little finger extended). This sign also occurs in polar questions in Thai Sign Language (Sasipa Bunyapen, p.c.). The existential question particle in Hong Kong Sign Language, also used with stative predicates, is a compound of the positive existential HAVE and the negative existential NOT-HAVE, in this order. With both question particles, nonmanual marking is on the particle only, but there is no intonation break before the particle.

(36) Hong Kong Sign Language

\_\_\_\_\_q  
 NOW TAKE-PHOTO QUESTION-PARTICLE  
 "good-not-good"  
 'Shall we take photos now?'



From a stationary hand with the palm facing inward, thumb and little finger are extended alternately several times.

FIGURE 9. Nonexistential question particle (Hong Kong Sign Language).



Crooked index finger makes contact with the chin (HAVE), then the hand with thumb and index in contact and other fingers loosely curved moves slightly from side-to-side (HAVE-NOT).

FIGURE 10. Existential question particle (Hong Kong Sign Language).

- (37) \_\_\_\_\_q  
 INDEX-2 SICK HAVE + NOT-HAVE  
 'Are you sick?'

Question particles in Hong Kong Sign Language are obligatory in confirmation questions. They express the intention of questioning the whole proposition and may imply a presupposition as to the answer. Thus in 38a the presupposition is that Gladys should indeed have come back, while in 38b there is no such presupposition.

- (38) Hong Kong Sign Language  
 a. \_\_\_\_\_q  
 GLADYS COME-BACK HAVE + NOT HAVE  
 'Gladys has come back, hasn't she?'  
 b. \_\_\_\_\_q  
 GLADYS COME-BACK COME-BACK  
 'Has Gladys come back?'

In Taiwanese Sign Language, the situation is interesting in that there are several types and layers of question particles. The particle MA belongs to a type of signing called Signed Mandarin, an artificially created hybrid system that has a signed language lexicon but attempts to mirror the grammatical structure of spoken Mandarin, including invented signs for Mandarin grammatical markers. Consequently, MA is mostly used by younger signers who have received more education in Signed Mandarin. A strategy that is more native to Taiwanese Sign Language involves a rapidly alternating repetition of positive and negative forms of certain predicates, a strategy similar to the Hong Kong Sign Language nonexistential question particle. Taiwanese Sign Language, however, seems to have two layers of grammaticalization with respect to these forms. The most commonly used form involves the signs HAVE and NOT-HAVE, which have effectively become fused into one sign with the palm orientation of HAVE but the rapid repeated movement of NOT-HAVE. This fusion is evidence of the advanced grammaticalization of this sign combination, which is in turn explainable by its high frequency. Less frequently used positive-negative combinations include CAN + CANNOT, WANT + NOT-WANT, KNOW + NOT-KNOW, and GOOD + NOT-GOOD, and it is not quite clear whether these may actually be considered single question particles, or rather part of a general syntactic mechanism for creating interrogatives from positive and negative forms, similar to the Sinitic A-not-A-construction. The HAVE + NOT-HAVE particle is again clause final, but note that the scope of nonmanual marking is different from Hong Kong Sign Language. Moreover, there seems to be no difference between an active predicate (as in 39) and a stative or existential reading (as in 40).

- (39) Taiwanese Sign Language  
 \_\_\_\_\_pol-q  
 INDEX-3 GO HAVE-NOT-HAVE  
 'Is he going?'
- (40) \_\_\_\_\_pol-q  
 INDEX-2 FATHER, MONEY HAVE-NOT-HAVE  
 'As for your father, has he got money?'

The relationship between signed and spoken languages in Southeast and East Asia is an important factor in the development of question particles in some signed languages in the region. As explained in §2.3, many signed languages have undergone the addition

of a contrived hybrid sign system such as the Signed Mandarin mentioned above. The use of such systems is one of the ways, perhaps the most powerful way, in which spoken-language structure influences signed languages. It seems that in regions where no such system is in use, signed-language structure is much more independent of spoken-language structure than in regions where such systems are pervasively used in educational settings. Thus in Japan, a question particle KA had originally been invented for the Signed Japanese system but seems to be entering the primary signed language as well, though only in polar questions so far. As a matter of political correctness within the deaf community, this sign is often rejected as not native to Nihon Shuwa, but this does not necessarily mean that it is never used. There is a whole continuum of registers in between Nihon Shuwa and Signed Japanese, and the use of KA seems to be situated somewhere in between the two extremes.

Another possible instance of spoken-language influence, though more subtle, is the parallelism between the Sinitic A-not-A-construction and the positive-negative combinations used as question particles in the region where Sinitic languages are spoken (Hong Kong, Taiwan). Note, in particular, that Taiwanese Sign Language patterns similarly to Hong Kong Sign Language in this respect, although it actually belongs to the Japanese Sign Language family and is related to Nihon Shuwa (Japan), which does not have any such construction.

But spoken-language influence is not the only way for a question particle to arise in a signed language, and not all cases in the data show a parallelism between signed and spoken language in this respect. For example, the question particle in Lengua de Señas Española (Spain) has no parallel in spoken Spanish. Another possible avenue that would need closer investigation in the future is the role of gestures, such as the palm-up gesture, in the development of question particles. This possibility is exemplified by the question particle in Finnish Sign Language.

**7. CONCLUSION.** Much remains to be done in the newly emerging discipline of signed-language typology. Typological studies across signed languages have only just become possible in the last few years and have a lot to contribute to our understanding of language in general and to linguistic typology in particular. The extent of variation across signed languages is not negligible and is, moreover, poorly understood and documented at present. As more and more data become available, a theory of sign-language typology will need to weave a coherent picture of all aspects of variation across signed languages. The results presented here should be seen as a first step in this direction.

The data presented in this article clearly show that some grammatical domains are more similar across signed languages than others. The nonmanual marking of polar questions occurs with great regularity in most signed languages in a very similar way. In spoken languages, the closest analogue would be the widespread use of rising intonation to mark polar questions in many spoken languages. In contrast, paradigms of question words can be radically different in different signed languages, ranging from a single general question word to large paradigms and complex question-word formation. The degree of crosslinguistic variation in question-word paradigms in signed languages is entirely comparable to the range of variation found in spoken languages. But there are also interesting similarities in the form of question words across unrelated signed languages. This aspect of signed-language structure seems to have no close correlate in spoken language.

At a more abstract level, signed and spoken languages do have a lot in common. The close association between interrogatives and indefinites, for instance, holds for

both signed and spoken languages, and both signed and spoken languages widely use intonational means (realized as nonmanual marking in signed languages) to mark questions. Spoken languages seem to use a somewhat wider range of structures to form polar questions, but many signed languages do make use of question particles in addition to nonmanual marking, though in a more limited and pragmatically constrained way. Because of the sociolinguistic situation of urban signed languages as minority languages coexisting with spoken majority languages, signed-language structure is prone to interacting with and being influenced by spoken-language structure, as is evident in the use of question particles in some Southeast and East Asian signed languages.

A rather different sociolinguistic situation that will deserve close attention in the future is the existence of native signed languages in village communities with a high incidence of hereditary deafness. This situation was first described in the island community of Martha's Vineyard on the east coast of the United States (Groce 1985), but has since been documented in a number of other places, most recently in Bali (Branson et al. 1999). These signed languages have a very small geographic extension, often being limited to one particular village or a group of related villages. The sociolinguistic situation in this setting is unique in that most hearing people are also fluent in the signed language and deaf people are not necessarily regarded as disabled. Such village signed languages seem to be strikingly different from the better-known urban signed languages in many ways (Gede Marsaja, Victoria Nyst, p.c.), but linguistic information is only just becoming available. These languages have the potential of calling into question many features of signed languages that were supposed to be typical of or universal in signed languages.

Finally, signed-language typology also has great potential significance for deaf communities around the world. Signed-language linguistics has played a crucial role in the struggle for the rights of deaf people as linguistic and cultural minorities and the recognition of signed languages as full-fledged natural languages on a par with spoken languages. In parts of the world where such developments are only just beginning, signed-language linguistics has a similar role to play. In most deaf communities around the world and particularly in developing countries with their large deaf populations, recognition of signed languages and a whole range of related topics, such as bilingual education for the deaf, interpreting services, and the self-respect of deaf communities, are urgent issues. Signed-language typology can contribute to addressing such issues by encouraging the study of signed languages in regions where they are still severely underdescribed.

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[Received 20 September 2001;  
 revision received 13 December 2002;  
 accepted 1 July 2003]