SIGN LANGUAGES

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Keywords: sign language, language modality, deaf community, deaf education, sign bilingualism, cross-modal language contact, iconicity, spatial syntax, language faculty, language acquisition, language attitudes

Contents

Summary

This contribution concerns the signed languages used in the deaf communities throughout the world. It summarizes the major research findings concerning their nature, acquisition and use. Sign languages are languages in their own right. They are perceived visually and their articulation involves the systematic use of body parts and the space. Despite the difference in the modality of expression, signed and spoken languages share important properties related to the organization of the human language faculty. On the other hand, given their common use of the visual-gestural modality, sign languages exhibit many typological similarities at the different levels of grammatical analysis. This work summarizes the major structural properties of sign languages at the lexical, phonological, morphological, and syntactic levels. Further, it explores the

factors that determine the acquisition and use of sign languages in deaf individuals. Research in the areas of sociolinguistics and developmental linguistics offers important insights into how innate and contextual factors conspire in the development of sign languages at the individual and societal levels. Like other minority languages, too, sign languages have been subject to contradictory language planning measures. However, the impact of these measures in the deaf communities is especially critical, because the minority language (sign language) and the majority language (oral/written language) do not represent equal codes for deaf individuals. Finally, attention is drawn to the outcome of this particular type of bilingualism, the diversity of linguistic profiles encountered among deaf individuals, their patterns of language use, and the characteristics of cross-modal contact phenomena.

1. Introduction

Sign languages are natural human languages produced and perceived through the visual-gestural modality. This property distinguishes them from spoken languages which make use of the auditory-vocal modality. While this distinctive property of sign languages has intrigued experts and laymen throughout the centuries, the studies undertaken during the last four decades in the areas of linguistics, sociolinguistics, and psycholinguistics have significantly contributed to a better knowledge and understanding of distinct sign languages, their nature and their use in the deaf communities.

Sign languages are languages in their own right. To date, a precise estimate of the number of the sign languages being used in the deaf communities throughout the world is lacking. The Ethnologue data base, for example, lists 114 different sign languages in 2005, a figure, however, that probably underestimates the actual number of existing sign languages.

The spatial distribution of a specific sign language is independent of the spatial distribution of a particular spoken language. Thus, while the use of English is common to the speakers in the US, the UK and Ireland, the signed languages used in these countries are mutually unintelligible, i.e. American Sign Language (ASL), British Sign Language (BSL), and Irish Sign Language (ISL) differ in their vocabularies and the grammatical structures they use.

In some countries, distinct sign languages are used in different regions. This is the case in Spain, for example, where signers in Catalonia identify with Catalan Sign Language (LSC), or in Belgium, where the deaf community in Flanders identifies with Flemish Sign Language ('Vlaamse Gebarentaal', VGT). Sign languages may also exhibit regional variation at the lexical level.

The mutual unintelligibility of distinct sign languages contrasts with the popular belief in the universality of sign language. In the history of philosophy, the appeal of the idea of a universal sign language has a tradition in debates about the origin of human language. Philosophers in the late 18th century and beginning of the 19th century theorized on whether gesture or speech was first in man. However, toward the end of the 19th century, linguistic societies in the UK and France decided to reject the discussion on the origin of language as it was deemed to be a problem that could not be

scientifically settled. While the philosophical debates were settled at that time, the myth of a universal sign language related to the idea that sign languages consist of universal gestures continues to prevail until today.

Gestures, like signs, make use of body parts and space to convey meaning. However, unlike gestures, signs are compositional and the combinatorial processes that make up a sign in a particular sign language follow language-specific restrictions. Despite the difference in processing modality, sign languages and spoken languages share some important properties concerning their underlying grammatical structure, which provides evidence as to the existence of a universal basis to all natural human languages. Like spoken words, signs are conventionalized linguistic forms that vary cross-linguistically, as do the rules used for their combination in an utterance.

The emergence and maintenance of distinct sign languages throughout the world is bound to their use in a social context. Variation across sign languages does not only pertain to their linguistic properties but also to the sociolinguistic factors that affect their emergence and maintenance in the deaf communities throughout the world. Nevertheless, sign languages are discussed here as a group for two reasons. First, sign languages qua visual-gestural languages share some fundamental typological similarities. Secondly, sign languages worldwide share the status of minority languages, and, as such have been subject to the same contradictory language planning measures as other minority languages.

2. The visual-gestural nature of sign languages

Sign languages and spoken languages involve different perceptual and productive systems. While spoken languages involve auditory processing and vocal production mechanisms, sign languages are perceived visually and their articulation involves the systematic use of body parts and space. One fundamental question in research into sign languages pertains to the potential impact of this difference in the modality of expression on the organization and structure of sign languages vis-à-vis spoken languages. Before dealing with this question the articulatory means of signed languages are introduced briefly.

2.1 Sign language articulators

Sign language production may involve the use of multiple articulators: the hands, the head, the face, and the upper part of the body (see Figures 1 to 4 for German Sign Language ('Deutsche Gebärdensprache', DGS) examples of articulators used in sign forms).

Some signs (see Figures 3 and 4) are produced with one hand; some with two hands (see Figures 1 and 2). In one-handed signs, the hand used is referred to as the *dominant hand*. Thus, depending on their handedness, signers may prefer to use the left or the right hand as the dominant hand. Apart from physiological limitations, the simultaneous use of multiple articulators in signs is restricted by linguistic constraints. For example, the forms of two-handed signs obey two combinatorial constraints that operate across sign languages, namely, the "Symmetry Condition" and the "Dominance Constraint".
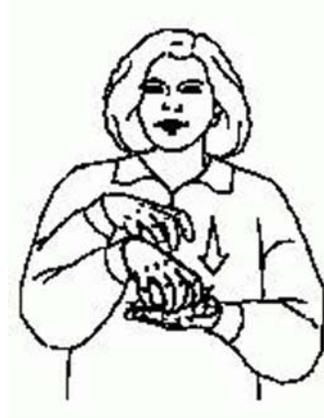
Figure 1. STADT (DGS) ('city') (from http://www.sign-lang.uni-hamburg.de/Alex/Lemmata/S_Lemma/Stadt.htm).

Figure 2. UNTERRICHT (DGS) ('teaching') (from http://www.sign-lang.uni-hamburg.de/Alex/Lemmata/U_Lemma/Unterricht.htm).

Figure 3. SCHLAF (DGS) ('sleep') (from http://www.sign-lang.uni-hamburg.de/Alex/Lemmata/S_Lemma/Schaf.htm).

Figure 4. FRECH (DGS) ('insolent') (from http://www.sign-lang.uni-hamburg.de/Alex/Lemmata/f_Lemma/frech.htm).

Figure 5. BROMA (LSE) ('joke'). Illustration ceded by Centro de Recursos para la Comunidad Sorda "Juan Luis Marroquín", Fundación CNSE.

The Symmetry Condition states that if both hands move in two-handed signs, their shape and their movement must be identical (see Figure 2). The Dominance constraint pertains to two-handed signs in which the hands have different handshapes. It states that if the hands in two-handed signs differ in their shape, the non-dominant hand is passive and either has an unmarked shape (see Figure 1) or the shape of the dominant hand. These two constraints hold across sign languages, only the set of unmarked handshapes being subject to cross-linguistic variation.

Some signs are made up of manual and non-manual components, such as facial expression. In Spanish Sign Language ('Lengua de Signos Española', LSE), for example, the signs BROMA ('joke') and EJEMPLO ('example') (see Figures 5 and 6), and the signs DIFÍCIL ('difficult') and CÓMO ('how') (see Figures 7 and 8) only differ

in the facial expression involved.

Figure 6. EJEMPLO (LSE) ('example'). Illustration ceded by Centro de Recursos para la Comunidad Sorda "Juan Luis Marroquín", Fundación CNSE.

Figure 7. DIFÍCIL (LSE) ('difficult'). Illustration ceded by Centro de Recursos para la Comunidad Sorda "Juan Luis Marroquín", Fundación CNSE.

Another type of non-manual component in sign forms pertains to mouth patterns. Mouth patterns are unrelated to spoken language forms and in some signs they are coordinated with the changes in handshape they involve, such as the opening or closing of the hand. Signs made up of manual and mouthed components are distinct from the simultaneous production of sign language and spoken language elements, commonly referred to as *mouthings*. The simultaneous production of signs and spoken elements in an utterance is an instance of language mixing, i.e. the outcome of a situation of language contact which is characteristic of the lives of most deaf individuals as explained in more detail

later on (see section 6).

Figure 8. CÓMO (LSE) ('how'). Illustration ceded by Centro de Recursos para la Comunidad Sorda "Juan Luis Marroquín", Fundación CNSE.

2.2 The signing space

Unlike pantomime, sign languages make a systematic and restricted use of space. The extension of the signing space, i.e. the space used in sign language production, is limited to the space bounded by the top of the head to the hips and the space extending to elbow width on the sides.

Space is involved in the articulation of individual signs. While some signs consist of a handshape in a particular location, some other signs involve a change in handshape or location during their articulation (see Figures 9 to 11 for DGS examples of simple vs. complex signs). In DGS, for example, the sign DURSTIG ('thirsty') (see Figure 11) involves a change in location, i.e. from the neck to the neutral space.

Figure 9. FRAU (DGS) ('woman') (from http://www.sign-lang.uni-hamburg.de/Alex/Lemmata/F_Lemma/Frau.htm).

Figure 10. MANN (DGS)´('man') (from http://www.sign-lang.uni-hamburg.de/Alex/Lemmata/M_Lemma/Mann.htm).

Figure 11. DURSTIG (DGS) ('thirsty') (from http://www.sign-lang.uni-hamburg.de/Alex/Lemmata/d_Lemma/durstig.htm).

Two further dimensions of the use of space are distinguished apart from the articulatory space. Firstly, at the grammatical level, space is used for syntactic purposes (syntactic space). For example, signers can associate referents and locations in space or express specific relations between elements in a clause. Secondly, space can be used to represent physical space, which is commonly referred to as topographic use of space, for example, in the description of a physical scene.

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