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2. The Referential and Predicational Functions of Signs with Markers of Natural Gender in Japanese Sign Language

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Abstract

The three related sign languages, Japanese Sign Language (JSL), Korean Sign Language and Taiwan Sign Language, are reported to have a gender distinction in pronouns and other signs. For historical reasons and because of an emblem for ‘female’ in the hearing Japanese culture, the distinction is taken to originate in JSL. In this chapter we give examples of the three relevant markers: +FEMALE (a fist with the little finger extended), +MALE (a fist with the thumb extended), and +FEMALE+MALE (a fist with the little finger and the thumb extended). We exemplify the different uses of the three markers in one monologue and two dialogues in JSL and discuss their uses in signs with a referential function, signs with a predicational function, and in depicting constructions. Most instances of the gender markers in the data are found in lexical nouns and a few lexical verbs. We also found cases with uses of the gender markers in signs whose function as either referential or predicational is unclear. Some signs start out as nominals with a referential function and then develop into depicting constructions which denote the referents’ motion or being in a place. A further use of the markers is in constructions where signers refer to a referent by pointing to the articulators of the markers. We suggest that the versatility of the markers is due to the fact that the spatial medium and gestural modality permit sign languages to represent referents by means of articulators, including the articulators of the gender markers.

2.1. Introduction

To the best of our knowledge, no sign language has been reported to have gender in the sense of noun classes, but a few African and Asian sign languages and Jamaican Sign Language appear to have gender markers distinguishing natural gender, i.e. the distinction between male and female. In Eritrean Sign Language, the signs *SISTER* and *BROTHER* are distinguished by the little finger versus the index finger; Moges (2015: 249) describes the difference as “gender marking”, and according to Wolbert Smidt (personal communication),

the distinction is not restricted to this pair of signs. For Hausa Sign Language, Schmalig (2015) also mentions a distinction between the signs meaning ‘brother’ and ‘sister’, and the markers are said to be used more widely as “enclitic-like morphemes as second components” of compounds (Schmalig 2015: 383). Cumberbatch (2015) mentions that pronouns in Jamaican Sign Language do not indicate gender, but some kinship terms do, an example being the sign meaning ‘cousin’ which distinguishes male from female by a location difference (COUSIN.MASC at the temple, COUSIN.FEM at the chin, and COUSIN.NEUT at the ear). Only one non-kinship noun in Jamaican Sign Language also shows the distinction, the sign meaning ‘prime minister’.

In Asia, the three historically related sign languages, Japanese Sign Language, Taiwan Sign Language, and Korean Sign Language, all have a grammatical distinction between the natural genders, male and female (Woodward 1978; Fischer and Gong 2010). The first school for the deaf was established in Japan in 1875 (Nakamura 2006) and somewhat later in Taiwan (Tay and Tsay 2015). According to Fischer and Gong (2010), Korean Sign Language has been in use since 1889, and it was used in schools at least from 1908 (Simons and Fennig 2017). Because of the Japanese occupation of Taiwan (1895–1945) and Korea (1910–1945), Japanese teachers of the deaf were sent to these countries bringing with them Japanese Sign Language and thus influencing whatever sign languages were in use among deaf people before that (Smith 2005; Fischer and Gong 2010). For this historical reason and since at least the female gender marker is found as an emblem among hearing Japanese people (Herlofsky 2007; see also Nakamura 2006), we may assume that the gender distinction originated in Japanese Sign Language (JSL).¹⁾ Peng (1974) claims that the thumb is associated with masculinity and strength and the little finger with femininity and weakness in Japanese culture at large. But Herlofsky (2007) suggests that the male marker may have been formed by signers as a contrast to the female marker, while the latter has its origin in an emblem used about a girlfriend in hearing Japanese culture.

The markers of natural gender in the three Asian sign languages have been treated in a number of papers. Smith (1990) included a description of the gender distinction in an analysis of three auxiliaries in Taiwan Sign Language. Fischer (1996) treated the markers in JSL as part of an analysis of auxiliaries and verb agreement, while Hong (2009) focused on the gender markers in verb agreement in Korean Sign Language. Herlofsky (2007) broadened the discussion of the gender markers to classifiers in lexical signs in Japanese Sign Language, and Byun *et al.* (2015) presented examples of the use of the gender markers in productively formed classifier predicates in Korean Sign Language. Peng (1974) and Supalla (2013) discussed the gender markers in kinship terms in JSL.

A more comprehensive treatment of the gender markers in JSL was part of Fischer and Gong’s (2010) account of variation in East Asian sign language structures. Besides the use of the female and the male markers in kinship terms, Fischer and Gong (2010) presented the following uses of the gender markers:

- in lexical verbs and nouns such as a verb meaning ‘invite’; here gender may be revived if the female marker is substituted for the male marker (‘invite a female’);
- in pronouns;

- in honorific clitics corresponding to Japanese *-san*;
- as what Fischer and Gong call indexical classifiers in verb agreement, where the articulator of a one-handed verb sign moves from or towards the articulator of one of the gender markers instead of moving from or towards a locus in space representing a definite third-person subject or object referent (see below);
- as indexical classifiers in descriptions of kinship relations; for instance, the articulator of the female marker can be held in space in one hand and used as a reference point for another articulator with the female marker held close to and below the first articulator, i.e. ‘daughter’s daughter’ (see also Peng 1974; Woodward 1978; Supalla 2013).

In this chapter, we present different uses of the gender markers by means of examples from one elicited monologue and two elicited dialogues by five native signers of JSL. Our aim is primarily to exemplify the uses of the gender markers mentioned in earlier papers (especially Fischer and Gong 2010), by means of detailed descriptions of examples from a more formal – scripted – genre (the monologue) and more spontaneous data (the dialogues). We do not intend to give a comprehensive description of the role of the markers of natural gender in the structure of JSL. Data based on native intuition would be beyond the intended scope of the chapter. We also wish to raise a discussion of the classification of signs with the markers of natural gender into word classes and point to communicative possibilities opened up by the specific medium and modality of sign languages.

Section 2.2 presents the signers, the data, and the data elicitation procedure. In Section 2.3 we state our view of the gender markers as bound meaningful components of signs or bound morphemes. Section 2.4 gives examples from the monologue and discusses some of the issues encountered when trying to categorize signs with the gender markers as words of traditional word classes. In Section 2.5 we present examples from the dialogues. Finally, we conclude in Section 2.6.

2.2. The Data

The data were elicited from native signers who were asked to solve a task that was presented to them in advance in the shape of a video-recorded monologue in JSL. The task consisted of a short story including a dilemma. The story, *The air-raid shelter*, is about a situation where a nuclear bomb has fallen in the region, and the signers are asked to decide which six out of twelve individuals they will allow into a shelter with themselves, the shelter only having room for eight people.²⁾ The list of twelve people includes six males, five females, and one individual whose gender is not disclosed. Besides the gender and age of the individuals waiting outside the shelter, the signers were given information about their professions and aspects of their personalities.

The video-recorded version of *The air-raid shelter* presented to the signers (duration: 3 minutes 57 seconds) was translated into JSL from a written Japanese version by the second author, who is herself a deaf native signer of JSL. She is also the signer on the recording. The style of the monologue can be characterized as formal and scripted. The signer had time to prepare the translation before being recorded.

Two pairs of deaf native signers discussed the task. One pair consisted of two men (duration: 12 minutes 37 seconds), the other of a woman and a man (duration: 4 minutes 44 seconds). All the signers are from the Osaka area and use the dialect of JSL of this area (Nakamura 2006; Fischer and Gong 2010). They are between 37 and 44 years of age, all have deaf parents, and they have been exposed to JSL from birth. According to self-reports, their primary language as adults is JSL.

The video-recordings were made at Minpaku – National Museum of Ethnology, Osaka. Ikeda welcomed the signers and gave them instructions about the task in JSL. Then she left the room with three cameras running, one recording the signers as a pair, and one on each signer. The recordings were transcribed in collaboration between the two authors and two interpreters. All examples involving gender markers were controlled by Ikeda.

2.3. The Gender Markers as Bound Morphemes or Bound Components of Signs

The gender markers are not full signs, but bound meaningful components of signs expressed by an articulator with a particular handform with a typical orientation. The markers cannot be pronounced independently, only when combined with an articulatory movement and an articulatory location. In this respect, they resemble so-called classifiers in sign languages. Classifiers are expressed by specific handforms with a typical orientation, which may be combined with articulatory movements and locations to express the motion and location of some entity.³ To emphasize the gender markers' status as bound meaningful components of depicting constructions or as bound morphemes of some complex lexical signs (e.g. signs meaning 'gay' or 'lesbian'), we transcribe them by means of a plus sign followed by glosses for their meaning: +FEMALE for a fist with the little finger extended, and +MALE for a fist with the thumb extended, and +FEMALE+MALE for a fist with both the little finger and the thumb extended.

The gender markers used with a neutral location outside the ipsilateral shoulder and no other movement than the movement needed to bring the hand into this position will be transcribed as +FEMALE+hold or +MALE+hold. The transcription with +hold reflects the fact that the lack of movement is not part of the gender marker as such. An alternative analysis might be to analyze signs with the articulators of the gender markers held motionless as the signs FEMALE-PERSON and MALE-PERSON, i.e. as full signs. Signs such as the signs meaning 'lesbian' or 'gay' would then have to be analyzed as integrating the articulators of FEMALE-PERSON and MALE-PERSON into another sign, discarding the movement and location of FEMALE-PERSON and MALE-PERSON, that is, as a sort of gender inclusion in parallel with number inclusion. We will not here evaluate the faults and merits of these two alternative analyses.

It should be noted that the gender marking function of +MALE is neutralized in JSL in signs that have lexicalized, e.g. the verb HELP. Such signs may be seen as frozen or lexical versions of signs with the indexical classifier (Fischer and Gong 2010).

2.4. Uses of +FEMALE and +MALE in the Monologue

2.4.1 The Gender Markers as Morphemes of Lexical Words

The distinction between the major word classes in sign languages is much debated (for an overview, see Meir 2012). We will not go into this debate here, but focus on whether the signs with the gender markers in the monologue and the dialogues are used to refer to some entity or place or used to predicate something of an entity or place. In general terms, these two functions distinguish nouns and pronouns from verbs and adjectives. But words that are generally used referentially and would be classified as nouns (possibly also because they denote entities) may also be used to predicate something about a referent (cf. *That person is a man*). Third-person pronouns generally have less specified meanings than nouns, but cannot be distinguished from nouns semantically (cf. the very general meaning of *entity* with the more specific meaning of *she*). Pronouns belong to closed classes and are generally used to substitute for nouns or noun phrases (Schachter and Shopen 2007). But in contrast to nouns, pronouns are only used to predicate something of a referent when they are used in identity clauses with two referential nominals such as *The director is her* with a referential pronoun in predicate position. The question here is thus whether the signs with the gender markers are used referentially or predicationally.

The signs +FEMALE+hold and +MALE+hold with the mouth movements of *onna* ('woman') and *otoko* ('man')⁴ are identical in manual form to the gender-marked pronouns, or put differently, +FEMALE+hold and +MALE+hold are used, in the monologue, both anaphorically to resume reference to an already introduced referent (corresponding to *she/the woman* and *he/the man*), and predicationally without any mouth movements corresponding to *female/a woman* and *male/a man* in English (e.g. *X is a woman/female*). One reason why it is difficult to distinguish gender-marked pronouns from the nouns of the same form is that the latter do not have any movement. Most one-handed signs in neutral space have a specific movement as part of their lexical form. The sign PERSON, for example, is made with an index hand tracing the shape of the kanji for 'person, human being', 人, the verb PERMIT is made with a repeated movement of the wrist, and the sign MONEY with a twisting movement of the hand. In JSL one-handed signs made in neutral space without movement of the articulator or without hand-internal movement comprise pronouns with an index hand, some number signs, some signs representing graphemes used for spelling, and +FEMALE+hold and +MALE+hold. We will get back to a possible explanation for this feature of +FEMALE+hold and +MALE+hold in Section 2.4.5.

In the monologue some predicational signs occur with the gender markers either in sequential compounds or with +FEMALE or +MALE integrated into the sign. The sequence meaning 'female doctor' is a compound consisting of a sign meaning 'medical' followed by +FEMALE+hold.⁵ By contrast, in the sign meaning 'male homosexual, gay' +MALE is integrated into the sign: the articulator of +MALE is moved into contact with the contralateral shoulder (Figure 2-1).



Figure 2-1 HOMOSEXUAL+MALE in the signer's right hand.
The articulator contacts the shoulder twice

+FEMALE+MALE is used in the monologue in some signs for heterosexual couples (see below and Herlofsky 2007) and in signs that share the meaning 'people' or 'human'. In the monologue we see +FEMALE+MALE in the sign SOCIETY (Figure 2-2): the two hands make a circular movement towards the signer and are brought into contact between the bent fingers. In the sequence SCIENCE STUDY AGENT meaning 'physicist' the final sign AGENT starts with the initial stage of SOCIETY (Figure 2-2 left), then the articulators twist so that the backs of the hands face the signer in the sign's final stage. The circular movement of SOCIETY is also seen in the monologue in a sign meaning 'everyone, all men' with the articulator of +MALE in both hands. And +FEMALE+MALE is seen in a sign meaning 'people': the two hands in the initial stage of SOCIETY are turned so that the palms face away from the signer; then the hands are moved to either side with slightly twisting movements.



Figure 2-2 SOCIETY with +FEMALE+MALE, initial and final stage

2.4.2 The Gender Markers in Pronouns or Predicational Signs?

Most sign languages have pronouns in the form of pointing signs (McBurney 2002; but see

Johnston 2013 for a criticism of the term *pronoun*). When signers wish to refer to someone, something or somewhere in the discourse environment, they may point to the entity or the place, most often by means of an index hand with the index finger stretched out and the tip of the finger pointing in the direction of the entity or the place. When signers of most sign languages talk about non-present entities, they may point in a direction from their body to a so-called *locus* intended to represent the referent. Loci for non-present referents can be seen as projections of the cognitively conceived referents into space (Engberg-Pedersen 1993; see also Liddell 2003). In the monologue about the air-raid shelter, the signer uses the locus forward to her right to represent the twelve people waiting outside the shelter, and a locus to her left to represent the shelter. She also uses a direction slightly to the left of the camera (seen from her perspective) to represent the two individuals given the task of selecting six people, i.e. the addressees in the imagined situation.

Pronouns as pointing signs are also found in JSL, as demonstrated by example (1) with the pronoun PT+fl (a point in the direction forward left) used to refer to the addressees imagined to be outside the shelter, and the pronoun PT+r used to refer to one of the twelve people waiting outside the shelter.⁶⁾

(1) PT+fl LOOK-AT+c+r PT+r / [...]

‘Looking at him, you...’

In the verb LOOK-AT (Figure 2-3) the orientation of the signer’s hand and its movement partly reflect the loci of the arguments. The back of the signer’s hand faces herself, the fingertips face the locus representing the P-argument, PT+r.⁷⁾ The signer leans slightly left, which is the general direction of the A-argument, i.e. the addressees at the time of waiting outside the shelter. Her eye gaze is directed towards the locus of the P-argument, and her facial expression reflects the scrutinizing attitude of the addressees outside the shelter. When making the verb, she has so-to-speak taken on the role of the A-argument herself.



Figure 2-3 LOOK-AT+c+r (final position)

Signs with the gender markers that may be referential occur in the descriptions of the twelve individuals waiting outside the shelter. When the signer of the monologue introduces the twelve people, she uses a phrase stating each individual's number on the list and then characterizes the individual in question. Examples (2) and (3) show two ways this is done.

- (2) No argument with the predicational sign **LAWYER**:

NEXT PERSON+THREE ORDINAL / **LAWYER** /

'The next one, the third person, is a lawyer.'

- (3) A pronoun, **PT**, followed by a predicational sign (**PLAY-VIOLIN** or **VIOLINIST**):

FIRST PERSON+ONE	—————	ORDINAL PERSON /	PLAY-VIOLIN /
	PT+r.hand	—————	PT PLAY-VIOLIN
	V		
+MALE+hold AGE FORTY/			

'The first person, it is a violinist, he is forty.' *or* '... it is a violinist, it is a man of forty years of age.'⁸⁾

In (2) the signer does not use any pronoun after the boundary before **LAWYER**. In (3) the signer uses a pointing which resumes the reference to the person already introduced and predicates **PLAY-VIOLIN** of this referent. The signer makes the sign transcribed as **PT**, with a very loose hand and a sort of swiping movement. Figure 2-4 shows the signer pointing with her left hand to her right hand with the sign **PERSON+ONE** (2-4a), the sign **ORDINAL** (2-4b), and the final position of the sign **PERSON** (2-4c) (i.e. 'the first person'). Then the signer makes the pointing sign with her left hand, the peak of the flipping movement can be seen in Figure 2-4d. It would not make sense to see the pointing in Figure 2-4d as directed towards any locus since the violinist is represented by the locus forward right in relation to the signer (see the first part of example (3)). The signer's own intuition is that the direction of the index finger in **PT** in Figure 2-4d is irrelevant. Thus the sign gives very little specific information about the referent, neither gender nor locus information. It appears to merely resume the notion of the referent from the preceding prosodic unit.

In the following prosodic unit of (3), the critical sign with **+MALE** is followed by the sequence **AGE FORTY** with a predicational function: **AGE FORTY** gives further information about the first individual on the signer's list. As suggested by the alternative translations, **+MALE+hold** may be either an anaphoric pronoun or noun ('he/the man') or a sign used predicationally. If the sign is referential, we may see it as the argument of **AGE FORTY** ('he is forty'). If the S-argument of this predicate has been left out (as in (2) before **LAWYER**), the sign is rather predicational ('it is a man') in parallel with **AGE FORTY**

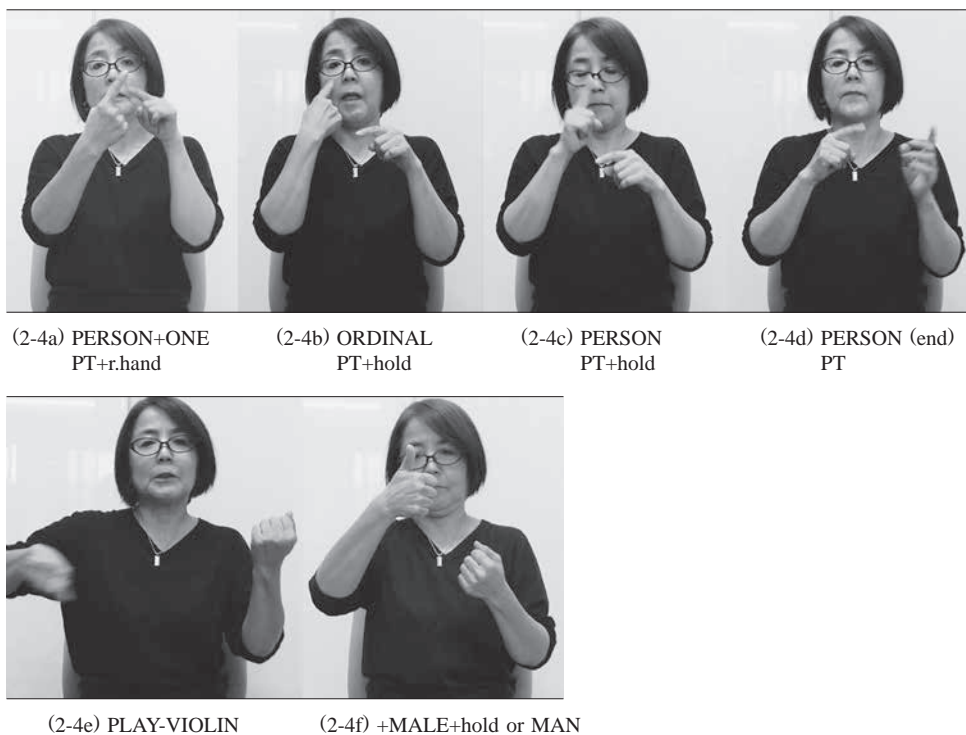


Figure 2-4 Excerpt from example (3), exemplifying the use of PT and +MALE+hold or MAN

(‘and he is forty’ or ‘of forty years’). As indicated in the transcription, +MALE+hold is followed by an eye blink, which might suggest that it constitutes an independent prosodic unit like *LAWYER* in (2), thus that it is predicational. It is made with the hand slightly raised, at the level of the signer’s face, but this could also be a way of emphasizing its referential function (‘he/this man is forty’ in contrast to the individuals to be described later), and the emphasis might cause the signer to blink after the sign.

In contrast to +MALE+hold in (3), +FEMALE in (4) is made in a transition movement between the end of the final PT of the preceding prosodic unit and the sign *MEDICAL*. The signs PT, +FEMALE, and *MEDICAL* can be seen in Figure 2-5 (compare Figure 2-5b with Figure 2-4f).

- (4) NEXT TEN PERSON+TEN ORDINAL PT / +FEMALE *MEDICAL* +FEMALE+hold /
MEDICAL—————
 AGE THIRTY/

‘The next one, the tenth person, she is a doctor, and she is thirty years.’

The fact that +FEMALE here occurs by itself in a transition movement might be seen as an argument against analyzing the gender markers as bound components of signs (see



Figure 2-5 Excerpts from example (4) with +FEMALE in a transition movement between two other signs

Section 2.3). However, the articulator of pronouns (PT) may also occur in transition movements without any hold. +FEMALE is made with so little phonological weight compared with +MALE+hold in example (3) that +FEMALE can hardly be seen as predicating new information ((‘this person is) a woman’) to the tenth person, but should be analyzed as a phonologically reduced, resumptive pronoun.

Fischer and Gong (2010) point out that gender markers are only used in third person definite pronouns and are optional even there. Both claims are substantiated by the data of this study, as exemplified by (3) and (4). Both +MALE+hold in (3) and +FEMALE in (4) are used of referents that have already been introduced, i.e. they are definite. Moreover, they alternate with PT as can be seen in example (3), so they are optional. Fischer and Gong (2010) further write that in some cases the gender markers are impossible for phonological reasons. In JSL the articulators of the number signs up to four can be used in pronouns. An example with the articulator of TWO from the monologue can be seen in Figure 2-6. The orientation of the hand is palm up instead of palm towards the signer, and the hand is moved sideways instead of being held motionless. Moreover, the tips of the fingers are clearly directed at the position of the addressees (towards the camera). The articulators of the number signs in a pronoun preclude of course use of the articulators of the gender markers in the same pronouns.



Figure 2-6 TWO+pron.+addressees (‘you two’)

2.4.3 Simultaneous Constructions with the Gender Markers

The examples that we have been discussing up to now concern signs used either as arguments of the predicate of a clause or with a predicational function. But there are other uses where a syntactic analysis of signs with +FEMALE+hold and +MALE+hold is difficult. One of them is in the position of what can be described as pronoun copies. In the data, pronoun copies are found at the end of sequences of clauses having the same topic as seen in (5) (for treatments of pronoun copies in JSL in general, see Torrigoe 1994 and Fischer 1996).

(5)

	V		V
PT+fr WHAT /	...	PUBLIC PLACE FORMAL-SPEECH+repeated /	
PT	PUBLIC	———— FORMAL-SPEECH+repeated	
chin low	deep nod	chin low	deep nod
V	V	V	
PT+fr /		+FEMALE+hold- / —————	
		PT+r.hand —————	

‘What about her? She ... gives talks publicly, that one.’

The signer uses a pointing sign, PT, followed by a series of predicates, the last one of which is FORMAL-SPEECH+repeated. This last predicate is followed by a pointing, PT+fr, a deep nod when the signer changes her hand from the index hand of PT+fr to the handform of +FEMALE, and then a construction with +FEMALE that can be seen in Figure 2-7b. After the first deep nod the signer makes the sign +FEMALE+hold, raises her left hand and points to her right hand. Then she blinks again and makes another deep nod. That is, the sequences of non-manual signals, eye blink and head nod, are similar for the signs in Figure 2-7a and Figure 2-7b. The non-manual markers separate both the first pointing and



(2-7a) PT+fr

(2-7b) +FEMALE+hold
PT+r.hand (final position)

Figure 2-7 The final two parts of example (7)

the simultaneous construction with +FEMALE from the preceding clause and from each other.

In the monologue, the signer uses altogether eleven constructions like the one in Figure 2-7b with the same non-manual signals as the pronoun copy of (5). In two cases, they follow a pronoun copy with a pointing as in (5). In the other nine cases, the signer uses only +FEMALE+hold or +MALE+hold and a pointing directed at her extended little finger or thumb (see Figure 2-7b), not PT first. In the position of a pronoun copy the signer only uses the gender markers in simultaneous constructions with pointings, never by themselves.

The existence of simultaneous constructions like the one in Figure 2-7b indicates that the gender markers may function as referent projections as an alternative to loci: they can be pointed to and used in this way to refer to a referent. Referent projections in sign languages are representations of referents in space around the signer (Engberg-Pedersen 1993; see also Liddell 2003). As mentioned, loci used to represent referents can be thought of as projections of cognitively held referents into space, and some articulators, particularly articulators of depicting constructions, are also referent projections: they represent the referents in space. We will return to this analysis below.

In the monologue, simultaneous constructions with the gender markers and pointing signs are also found between two predicates (see (6)) and in a sort of topic-marking construction with WHAT (see (7)). In (6) the simultaneous construction occurs between the predicate AGE SEVENTY-FIVE and the predicate MONK.

- (6) NEXT ORDINAL PERSON / AGE SEVENTY-FIVE
 PERSON+FIVE

+MALE+hold——MONK /
 PT+r.hand

‘The next one, the fifth person, is seventy-five, it is a man, and he is a monk.’ *or*
 ‘...is seventy-five, and he is a monk.’

- (7) +MALE+hold—— / FORMAL-SPEECH ADJECTIVE ACTIVE AGGRESSIVE PT+fr /
 PT+r.hand WHAT FORMAL-SPEECH ADJECTIVE ACTIVE—————

+MALE+hold /
 PT+r.hand

‘What about him? He is deeply politically active.’

In the monologue, all instances of sentence-final simultaneous constructions are marked off from the preceding clause by means of the non-manual signals found with the pronoun copy in (5), but that is not the case with the simultaneous construction in (6). Therefore, it is reasonable to analyze the example in (6) as either representing the S-argument of MONK (‘he is a monk’) or as constituting a predicate in itself (‘it is a man’). That is, it is another

instance of a construction that is ambiguous between having a referential and a predicational function.

In the monologue, there are three instances of the topic-like construction with WHAT in (7), in two of them the signer uses a simultaneous construction, in one a pointing only. Here the simultaneous construction appears to have a referential, and not a predicational, function ('What about that female/male?').

Before concluding the discussion of the gender markers in relation to referential and predicational signs, we will give some examples of their use in productively formed depicting constructions.

2.4.4 The Gender Markers in Depicting Constructions

The gender markers are used in depicting constructions in ways similar to, for instance, what Cormier, Quinto-Pozos, Sevcikova, and Schembri (2012: 330) call the upright.stick-shaped.entity in depicting constructions in British Sign Language. Examples (8) and (10) present some ways the gender markers are used in depicting constructions in the monologue in JSL. In (8) the signer uses +MALE in a predicate about some soldiers (see Figure 2-8).

(8) SOLDIER ARMY DC:+MALE+move-round-from-far-to-c /

'Some soldiers come along.'



(2-8a) Initial position

(2-8b) Final position

Figure 2-8 DC:+MALE+move-round-from-far-to-c, initial and final position. The hand is moved round in a semi-circle from a higher point on the signer's right to a lower position closer to her

In (8) and Figure 2-8a-b +MALE is used in a depicting construction to describe the motion of the soldiers in relation to the holders of the viewpoint represented by the signer.

In another part of the monologue the signer talks about a married couple who does not want to be separated. In the sign WIFE, the signer uses two hands, each with a gender marker. The different parts of the sign WIFE are transcribed separately here (see Figure 2-9).

(9) IN-THE-PAST LAWYER +MALE+hold———
 PT+r.hand +FEMALE+hold-at-r.hand+move-left+hold-

PT+l.hand / PT+l.hand / IN-THE-PAST—— MENTAL MEDICAL BUILDING /
 ————— PT MEDICAL BUILDING

‘Earlier the lawyer’s wife, she had earlier been in a mental hospital.’

After having established +MALE+hold with her right hand in space, the signer points to this hand with her left hand and then signs +FEMALE+hold next to her right hand, i.e. ‘the lawyer’s wife’. Then she moves her left hand with the articulation of +FEMALE to the left. The movement of the articulator with +FEMALE to the position to the left does not have meaning. Thus, this is not an example of a depicting construction. The signer simply establishes the topic of what follows, and the topic does not include the husband. Figure 2-9c shows an example of a simultaneous construction of the type described in Section 2.4.3, here with the function of topic.



(2-9a) +MALE+hold
 +FEMALE+hold-at-r.hand

(2-9b) +MALE+hold
 +FEMALE+move-left

(2-9c) PT+l.hand
 +FEMALE+hold

Figure 2-9 Establishing the family relation between the lawyer and his wife and +FEMALE+hold as the topic of the following predicate

A little later the signer again uses two articulators with +FEMALE and +MALE about the married couple (with a repeated short movement into contact between the hands), but here she moves her left hand with +FEMALE in the forward left direction of the locus representing the shelter (Figure 2-10). In this instance, the movement and the location are both meaningful; they signify the woman going by herself into the shelter.

(10) TWO+pron. +MALE+hold TWO+pron. +MALE+hold——/——— ENTER
 +FEMALE+hold——— +FEMALE+hold PT IF ENTER

+MALE+hold——— CANNOT /
 DC:+FEMALE+move-fl———

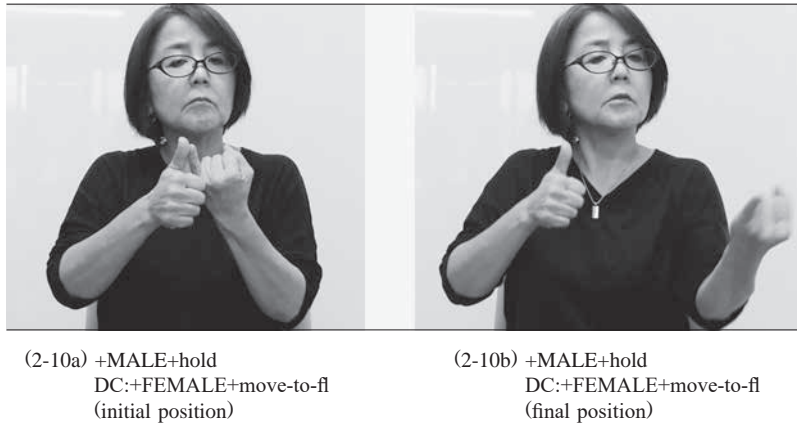


Figure 2-10 The initial and final position of the depicting construction indicating the wife moving by herself into the shelter

‘The two of them, the couple, the wife will not enter by herself.’

In (8) and (10) we see depicting constructions with +FEMALE and +MALE denoting motion, in (9) +FEMALE and +MALE are used in constructions to refer to the two individuals. With these examples in mind, we may return to the question about the status of signs with +FEMALE and +MALE as predicational or referential.

2.4.5 Predication and Reference

McBurney (2002) suggests a distinction between the medium and the modality of a language. The modality of a language depends on the articulators of production and the channel of perception. For spoken languages the modality is auditory-vocal, for sign languages the modality is visual-gestural. For both language types, the medium is temporal: both types are transmitted in time with something preceding something else. But sign languages also make use of the spatial medium: they are transmitted in space, which may be relevant to spoken languages only in their written form. It is the combination of the gestural modality and the spatial medium that allows sign languages to make use of referent projections (Engberg-Pedersen 1993). As mentioned, referent projections may be loci, which appear from signers’ gaze directions, their head and body orientation, and the movement direction and orientation of their hands in some signs. Some manual articulators may also be referent projections independently of loci, e.g. the articulators of +FEMALE and +MALE and articulators of depicting constructions (see also Dudis 2004). +FEMALE and +MALE can be used to represent referents with the semantic features of ‘human, female’ or ‘human, male’ (or ‘personified human, female/male’, see Fischer and Gong 2010). That is what we see when the signer points to her little finger as the articulator of +FEMALE (Figure 2-9c) or her thumb as the articulator of +MALE, or when she moves the articulator with +FEMALE away from the other articulator with +MALE in the direction forward left to describe how the wife might leave her husband to go into the shelter (Figure 2-10).

The construction in Figure 2-10 constitutes a full clause in that it specifies both the

referents and their actions even though it consists of only one simultaneous construction. Clausal structure where the referential and the predicational element are differentiated temporally can be seen in other cases in the monologue, especially in clauses with referential nominals (e.g. example (8)). By contrast, depicting constructions with the articulators as referent projections include both the referential and the predicational elements in one construction, and can be seen as the extreme structural opposite of clauses with a noun (or nominal phrase) or a pronoun, used for reference, and a lexical verb, used for predication. In between these two extremes there are ambiguous cases with +FEMALE+hold or +MALE+hold used either to refer anaphorically to some individual or to predicate only gender and the state of being human to a referent, not any motion or location.

We may now return to a possible explanation for the fact that the signs meaning ‘woman, female individual’ and ‘man, male individual’ are made without any movement despite being one-handed signs in neutral space. If they were made with a movement, the movement might be misinterpreted as meaningful such as the linear movement in Figure 2-10, which signifies that the wife moves to the shelter. Such an interpretation is avoided when the signs do not have any movement.

2.5. The Gender Markers in the Dialogues

In the dialogues (altogether 17 minutes 21 seconds) the signers use the gender markers less often than the signer of the monologue with its listing of the people waiting outside the shelter. There are altogether thirty-four examples of +MALE, +FEMALE, and +FEMALE+MALE. Most of the uses are as parts of lexical signs such as HOMOSEXUAL+MALE and BISEXUAL. BISEXUAL has the same movement and location as HOMOSEXUAL+MALE (Figure 2-1), but is made with the articulator of +FEMALE+MALE. Thus HOMOSEXUAL+MALE, HOMOSEXUAL+FEMALE, and BISEXUAL form a small group of signs that can be regarded as bimorphemic.

In the dialogues, signs with the gender markers are used as referential arguments of lexical verbs such as LOOK-AT, NOT-NEED, and NEED. One signer signs ... LOOK-AT PT+1 +MALE+hold PT+1 LOOK-AT... (‘... looking at him, I...’). The sign is accompanied by the mouth movements of the Japanese third person masculine pronoun *kare*. Another signer uses the sequence +MALE+hold HOMOSEXUAL+MALE / BUT DISCRIMINATION NO / (‘he is homosexual, but we don’t want discrimination’), where +MALE+hold appears to be the argument of HOMOSEXUAL+MALE in contrast to what we see in an example with HOMOSEXUAL+MALE +MALE+hold as an argument of NEED (‘we need the homosexual man’). +MALE+hold is also used as the P-argument of NOT-NEED with a non-specific meaning in several instances when the signers talk about a woman waiting outside the shelter; she advocates a life without men in general, which is expressed by NOT-NEED +MALE+hold. Two of these instances of +MALE+hold are accompanied by the mouth movements of the Japanese word *otoko* ‘man’. Since anaphoric pronouns are definite by definition, this sign must be classified as a noun used to refer to men in general.

In two instances, the phrase +MALE+hold +FEMALE+hold is used predicationally (see (11a-b)).

(11) a. STUDENT +MALE+hold +FEMALE+hold / NOT-KNOW /

‘We don’t know whether the student is male or female.’

b. +MALE+hold +FEMALE+hold WRITE NOTHING /

‘It doesn’t say whether it’s male/a man or female/a woman.’

+FEMALE+hold is also used predicationally (or as a suffix, see note 5) in the sequence MEDICAL +FEMALE+hold, and one signer uses the sequence +FEMALE+hold HIGH-SCHOOL STUDENT (‘a female high-school student’) with +FEMALE+hold preceding the compound HIGH-SCHOOL STUDENT. According to the last author, +FEMALE+hold is seen as descriptive when it precedes a noun.

+MALE can be identified in two lexical verbs where the gender distinction is neutralized, namely, HELPFUL and SCOLD (Figure 2-11). SCOLD is used in a context with a female P-argument, but is nevertheless used in this lexeme with the articulator of a fist with the thumb extended.



Figure 2-11 The lexical verb SCOLD, final position

+FEMALE is used in the lexical sign WIFE, where the signer moves his right hand with +FEMALE into contact with his left hand with +MALE and then away from his left hand, finishing the sequence with a small downward movement to an abrupt stop. The movement is used to establish the phrase (‘his wife’) as the topic of the sentence (‘his wife, she...’) (see also example (9)).

+FEMALE+MALE occur in the dialogues in the lexical signs PEOPLE and MARRIED-COUPLE. In MARRIED-COUPLE it is used with a twisting movement, once non-referentially (‘what kind of married couple’) and once as the topic of a clause as seen in (12).

(12) PT DIFFERENT MARRIED-COUPLE————— CARE-FOR—————
 PT+r.hand CARE-FOR HARD YES

+FEMALE+MALE+hold/

‘But the married couple, it will be hard to care for them, right?’

+FEMALE+MALE+hold at the end of (12) does not have the twisting movement of MARRIED-COUPLE, nor the non-manual markers of a pronoun copy. It occurs after a complex sentence and is co-referential with PT DIFFERENT MARRIED-COUPLE.

In (13) +FEMALE+MALE is used in a depicting construction about the married couple moving into the shelter together, a parallel to example (10) (Figure 2-10) with +FEMALE in the monologue.

(13) DC:+FEMALE+MALE+move-right-to-left PREFERABLE / DIFFERENT /

‘It is better that the married couple go in there, isn’t it?’

An interesting example with +FEMALE+MALE can be seen in (14) and Figure 2-12.

(14) DC:+FEMALE+MALE+hold-close-to-r.shoulder / CAN—————
 grasping-right-hand————— PT+text

MARRY+FEMALE-high CAN /⁹⁾

MARRY+MALE-low PT+text

‘We can take the couple (away from you), and then we can marry the man in a dominating way.’



(2-12a) A depicting construction with +FEMALE+MALE in the signer’s right hand, which she grasps and moves with her left hand.



(2-12b) A modified version of MARRY, in which +FEMALE and +MALE are used meaning-fully.

Figure 2-12 Two separate constructions from example (14)

In Figure 2-12a the signer uses her left hand to move her right hand with the articulator of +FEMALE+MALE away from the addressee, thereby showing iconically how she – and other women in the group – would take away a couple from the addressee. This is a particularly clear example of how the articulators of the gender markers can be seen as representations of the referents, i.e. as referent projections. In the construction in (12b) the signer turns the two articulators in the lexical sign MARRY into meaningful entities to express the women’s domination of the man.

In some instances the signers use the articulators of +FEMALE+hold and +MALE+hold with horizontal movements to indicate plurality, e.g. the articulator of +MALE with a circular movement (‘all we men/male’) or with a linear movement (‘you men/male’) and the articulator of +FEMALE with a linear movement accompanied by repeated versions of the mouth movements of the Japanese word *onna* ‘woman’ (‘all we women/female’).

The dialogues show that the three gender markers may be used in signs that are P-arguments of their verbs (LOOK-AT), and thus referential, without being integrated into the verb, and that their articulators may be used with movements that do not denote motion or location, e.g. a horizontal movement of plurality. As a P-argument, +MALE is used in a sign with indefinite meaning (‘men in general’), where it cannot be a pronoun. Moreover, the signers of the dialogues use +FEMALE and +MALE to include their own or the addressee’s locus (‘we men/women’, ‘you men’). The signers also use the gender markers to represent referents in productive depicting constructions.

2.6. Conclusions

As the monologue, the dialogues show the three gender markers in many lexical nouns and verbs, either as bound morphemes in bimorphemic signs such as HOMOSEXUAL+MALE and BISEXUAL or in lexical verbs such as SCOLD, where the gender distinction is neutralized and the articulator is not independently meaningful. +FEMALE+hold and +MALE+hold are used in many instances in such a way that their status as referential or predicational is ambiguous. But when they are used as arguments of verbs, i.e. with a referential function, they may be used both with an indefinite meaning and with a definite meaning. In the latter case they may be analyzed as anaphors. Most of the anaphors in our data do not show a gender distinction. In both the monologue and the dialogues there are numerous pointing signs without gender marking. Rather, anaphors with the gender distinction appear to be an optional alternative to pointings. In the monologue gender-marked anaphors are used even when gender is not particularly pertinent (see example (4)), whereas the signers of the dialogues use referential signs with the gender markers only when gender is particularly relevant in the context.

Fischer and Gong (2010) claim that what they call indexical classifiers, i.e. the gender markers – and especially a semantically neutral version of +MALE – integrated into agreement verbs, are an alternative to using a referential locus in agreement. In the dialogues, signs with the gender markers having a referential function are used with the loci of the signer or the addressee, but there are no examples of the gender markers in signs modified for the locus of third person referents except in depicting constructions.

In two types of constructions the signers treat the gender markers as referent projections or representations of referents, one is the simultaneous constructions where the signer of the monologue makes an instance of +FEMALE+hold or +MALE+hold with one hand and points to the little finger or thumb with the other hand, the other is depicting constructions. A depicting construction like the one in Figure 2-12a shows how sign languages profit from their spatial medium and gestural modality: signed languages may use the articulators as representations of referents in constructions that combine the referential and the predicational functions. Thus, it may not always be warranted to attempt to use classical word classes in relation to sign languages.

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Appendix

The transcriptions consist of parallel lines with the activity of the hands transcribed as glosses in English as the most important lines. The signs made by the signer's right hand are transcribed in the top line, the signs made by the signer's left hand underneath this line. If a two-handed sign is made with both hands, the notation is the same in the two lines. In some cases, signer's point with either their right or their left hand to an articulator made with the other hand. In such cases, PT+r.hand indicates that the pointing is directed at the right hand, and PT+l.hand that it is directed at the left hand. A line after the gloss for a sign means that the articulator is kept in the final position of the sign for as long as the punctuated line lasts. The non-manual signals are only transcribed when they are central to the discussion in the text. V in the line above the glosses indicate eye blink. / is used to indicate a boundary between clauses or major constituents, such boundaries are signaled non-manually and/or manually (e.g. by final lengthening).

CARE-FOR	A lexical sign transcribed by English glosses in capital letters. If more than one English word is needed for a single sign, the words are linked by hyphens.
PT	A pointing sign. PT+l means 'l'.

PT+fl	A sign modified for a locus, here a pointing sign with the index finger pointing in the <i>forward left</i> direction from the signer. LOOK-AT+c+r indicates that the back of the hand faces the signer (<i>c</i> for <i>center</i>) as the A-argument of the verb, and the fingertips point in the direction <i>right</i> representing the P-argument. +addressee: the articulator is directed at the addressee.
PERSON+THREE	A sign with number incorporation: the articulator from the number sign THREE is incorporated into the movement and place of articulation of the sign PERSON.
+MALE+hold	+hold indicates lack of movement in a sign.
TWO+pron.	The articulator of TWO with the meaning ‘two’ is used in a sign with a pronominal function
DC:+MALE+move-round-from-far-to-c	A depicting construction with the articulator of +MALE; the movement of the articulator is described rather freely either in formal or semantic terms. In those instances where a sign changes its status to a depicting construction (see text), we have used ad-hoc solutions.

Notes

- 1) Following Fischer and Gong (2010: 613) we abbreviate Japanese Sign Language by its English name. In Japanese the language is called 日本手話 (Romanised as *Nihon Shuwa*), but as Japanese is not written in Roman script, it seems more reasonable to abbreviate the name as JSL in a paper in English. A further note on terminology: There is a tradition of distinguishing between *deaf* about the audiological condition and *Deaf* about the cultural status. We are going to use the term *signer* of the participants in this study and *deaf* only in the audiological sense.
- 2) We are grateful to Mikkel B. Hansen for suggesting this story for the project, and to KODAMA Shigeaki for translating it into Japanese.
- 3) The term *classifier* in sign linguistics is controversial (e.g. Engberg-Pedersen 1993; Schembri 2003). In recent years there has even been a tendency to use the term of full signs rather than of articulators that represent referents by certain characteristic semantic features. Here constructions with such articulators, denoting the motion or location of one or more entities, will be described as *depicting constructions* (Cormier et al. 2012). The analysis of depicting constructions into meaningful parts is not obvious (see, e.g. Liddell 2003; Engberg-Pedersen 2010). Thus, we talk about the gender markers as meaningful components of depicting constructions, not as morphemes.
 The distinction between so-called agreement or indicating verbs and depicting constructions may be a matter of conventionalization and lexicalization. A verb such as SCOLD in JSL has a depicting origin, but has been conventionalized with a particular form. It would lead too far from the topic of this chapter to argue for the similarities and differences between agreement/indicating verbs and depicting constructions (but see Engberg-Pedersen 1985, 1993, 2002, 2010; Cormier et al. 2012).
- 4) The signs are translated into English *woman* and *man*, for instance, in *An English Dictionary of Basic Japanese Signs* (Japanese Federation of the Deaf 1991), but the signer of the monologue

- in this study uses +FEMALE+hold also of a girl of twelve in the sequence +FEMALE+hold CHILD, which seems to indicate that the meaning is rather 'female' or 'female individual'.
- 5) An anonymous reviewer suggested that +FEMALE+hold may be a suffix like German *-in* in the pair *Lehrer* ('teacher') – *Lehrerin* ('female teacher'), which seems likely (but see Section 2.5). Fischer and Gong describe uses of the gender markers immediately after name signs as 'honorific clitics' similar to Japanese *-san* (2010: 513).
 - 6) The transcription conventions are described in the Appendix.
 - 7) To avoid making any assumptions as to whether JSL has the grammatical arguments of subject and object, arguments are characterized by the semi-semantic terms *A* (for *Agent*) and *P* (for *Patient*) of the most active and the least active arguments of verbs that take more than one argument, and *S* of the argument of a predicate with only one argument (Comrie 1989; see also Engberg-Pedersen 2002).
 - 8) As gender is central to the chapter, we translate gender-neutral pronouns as *it*.
 - 9) The signer's grasping her right hand with her left hand can be described as a gesture (Emmorey 1999) or as a depicting construction. Here we have chosen to describe the signer's action. PT+text in the transcription means that the signer points to a sheet of paper with a list of the people waiting outside the shelter.

References

- Byun, K.-S., I. Zwitserlood, and C. De Vos
 2015 Classifiers and Gender in Sign Language: The Case of Korean Sign Language. Paper presented at the Workshop on Gender and Classifiers: Areal and Genealogical Perspectives, January 26–27, 2015, University of Surrey.
- Comrie, B.
 1989 *Language Universals and Linguistic Typology: Syntax and Morphology* (2nd ed.). Oxford: Blackwell.
- Cormier, K., D. Quinto-Pozos, Z. Sevcikova, and A. Schembri
 2012 Lexicalisation and De-lexicalisation Processes in Sign Languages: Comparing Depicting Constructions and Viewpoint Gestures. *Language & Communication* 32(4): 329–348.
- Cumberbatch, K.
 2015 Jamaican Sign Language. In J. B. Jepsen, G. S. De Clerck, S. Lutalo-Kiingi, and W. B. McGregor (eds.) *Sign Languages of the World: A Comparative Handbook*, pp. 511–527. Berlin: De Gruyter Mouton.
- Dudis, P.
 2004 Body Partitioning and Real-Space Blends. *Cognitive Linguistics* 15(2): 223–238.
- Emmorey, K.
 1999 Do Signers Gesture? In L. S. Messing and R. Campbell (eds.) *Gesture, Speech, and Sign*, pp. 133–159. Oxford: Oxford University Press.
- Engberg-Pedersen, E.
 1985 The Use of Space with Verbs in Danish Sign Language. In B. T. Tervoort (ed.) *Signs of Life: Proceedings of the Second European Congress on Sign Language Research*, pp. 32–41. Amsterdam: The Dutch Foundation for the Deaf and Hearing Impaired Child, The

- Institute of General Linguistics of the University of Amsterdam, The Dutch Council of the Deaf.
- 1993 *Space in Danish Sign Language: The Semantics and Morphosyntax of the Use of Space in a Visual Language*. Hamburg: Signum-Verlag.
- 2002 Grammatical Relations in Danish Sign Language: Topic and Subject. In A. Pajunen (ed.) *Mimesis, Sign, and the Evolution of Language 3*: 5–40. Turku: Turun Vliopisto/University of Turku.
- 2010 Factors that Form Classifier Signs. In D. Brentari (ed.) *Sign Languages*, pp. 252–283. Cambridge: Cambridge University Press.
- Fischer, S. D.
1996 The Role of Agreement and Auxiliaries in Sign Language. *Lingua* 98: 103–119.
- Fischer, S. D. and Q. Gong
2010 Variation in East Asian Sign Language Structures. In D. Brentari (ed.) *Sign languages*, pp. 499–518. Cambridge: Cambridge University Press.
- Herlofsky, W. J.
2007 Iconic Thumbs, Pinkies and Pointers: The Grammaticalization of Animate-Entity Handshapes in Japan Sign Language. In E. Tabakowska, C. Ljungberg, and O. Fischer (eds.) *Insistent Images*, pp. 37–53. Amsterdam: John Benjamins Publishing Company.
- Hong, S.-E.
2009 Eine Empirische Untersuchung zu Kongruenzverben in der Koreanischen Gebärdensprache (An Empirical Investigation of Agreement Verbs in Korean Sign Language). *Sign Language & Linguistics* 12(2): 228–234.
- Japanese Federation of the Deaf
1991 *An English Dictionary of Basic Japanese Signs*. Tokyo: Japanese Federation of the Deaf.
- Johnston, T.
2013 Formational and Functional Characteristics of Pointing Signs in a Corpus of Auslan (Australian Sign Language): Are the Data Sufficient to Posit a Grammatical Class of ‘Pronouns’ in Auslan? *Corpus Linguistics and Linguistic Theory* 9(1): 109–159.
- Liddell, S. K.
2003 Sources of Meaning in ASL Classifier Predicates. In K. Emmorey (ed.) *Perspectives on Classifier Constructions in Sign Languages*, pp. 199–220. Mahwah: Lawrence Erlbaum Associates.
- McBurney, S. L.
2002 Pronominal Reference in Signed and Spoken Language: Are Grammatical Categories Modality-Dependent? In R. P. Meier, K. Cormier, and D. Quinto-Pozos (eds.) *Modality and Structure in Signed and Spoken Languages*, pp. 329–369. Cambridge: Cambridge University Press.
- Meir, I.
2012 Word Classes and Word Formation. In R. Pfau, M. Steinbach, and B. Woll (eds.) *Sign Language: An International Handbook*, pp. 77–111. Berlin: De Gruyter Mouton.
- Moges, R. T.
2015 Eritrean Sign Language. In J. B. Jepsen, G. S. De Clerck, S. Lutalo-Kiingi, and W. B. McGregor (eds.) *Sign Languages of the World: A Comparative Handbook*, pp. 235–251.

- Berlin: De Gruyter Mouton.
- Nakamura, K.
2006 *Deaf in Japan: Signing and the Politics of Identity*. Ithaca: Cornell University Press.
- Peng, F. C. C.
1974 Kinship Signs in Japanese Sign Language. *Sign Language Studies* 5: 31-47.
- Schachter, P. and T. Shopen
2007 Parts-of-Speech Systems. In T. Shopen (ed.) *Language Typology and Syntactic Description (Vol. 1): Clause Structure* (2nd edition), pp. 1-60. Cambridge: Cambridge University Press.
- Schembri, A.
2003 Rethinking 'Classifiers' in Signed Languages. In K. Emmorey (ed.) *Perspectives on Classifier Constructions in Sign Languages*, pp. 3-34. Mahwah: Lawrence Erlbaum Associates.
- Schmaling, C. H.
2015 Hausa Sign Language. In J. B. Jepsen, G. S. De Clerck, S. Lutalo-Kiingi, and W. B. McGregor (eds.) *Sign Languages of the World: A Comparative Handbook*, pp. 361-389. Berlin: De Gruyter Mouton.
- Simons, G. F. and C. D. Fennig (eds.)
2017 *Ethnologue: Languages of the World*. Dallas: Texas: SIL International. Online version: <https://www.ethnologue.com> (Accessed on December 18, 2017)
- Smith, W. H.
1990 Evidence for Auxiliaries in Taiwan Sign Language. In S. D. Fischer and P. Siple (eds.) *Theoretical Issues in Sign Language Research (Vol. 1): Linguistics*, pp. 211-228. Chicago: The University of Chicago Press.
2005 Taiwan Sign Language Research: An Historical Overview. *Language and Linguistics* 6(2): 187-215.
- Supalla, T.
2013 The Role of Historical Research in Building a Model of Sign Language Typology, Variation, and Change. In R. Kikusawa and L. A. Reid (eds.) *Historical Linguistics 2011: Selected Papers from the 20th International Conference on Historical Linguistics, Osaka, 25-30 July 2011*, pp. 15-42. Amsterdam: John Benjamins Publishing Company.
- Tay, J. and J. Tsay
2015 Taiwan Sign Language. In J. B. Jepsen, G. S. De Clerck, S. Lutalo-Kiingi, and W. B. McGregor (eds.) *Sign Languages of the World: A Comparative Handbook*, pp. 771-809. Berlin: De Gruyter Mouton.
- Torrigo, T.
1994 Resumptive X Structures in Japanese Sign Language. In I. Ahlgren, B. Bergman, and M. Brennan (eds.) *Perspectives on Sign Language Structure: Papers from the Fifth International Symposium on Sign Language Research, Salamanca, 25-30 May 1992*, pp. 187-198. Durham: The Deaf Studies Research Unit, University of Durham.
- Woodward, J.
1978 All in the Family: Kinship Lexicalization across Sign Languages. *Sign Language Studies* 19: 121-138.