12   Nominal expressions in Hong Kong Sign Language: Does modality make a difference?

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12.1   Introduction

Signed language research in recent decades has revealed that signed and spoken languages share many properties of natural language, such as duality of patterning and linguistic arbitrariness. However, the fact that there are fundamental differences between the oral–aural and visual–gestural modes of communication leads to the question of the effect of modality on linguistic structure. Various researchers have argued that, despite some superficial differences, signed languages also display the property of formal structuring at various levels of grammar and a similar language acquisition timetable, suggesting that the principles and parameters of Universal Grammar (UG) apply across modalities (Brentari 1998; Crain and Lillo-Martin 1999; Lillo-Martin 1999). The fact that signed and spoken languages share the same kind of cognitive systems and reflect the same kind of mental operations was suggested by Fromkin (1973), who also argued that having these similarities does not mean that the differences resulting from their different modalities are uninteresting. Meier (this volume) compares the intrinsic characteristics of the two modalities and suggests some plausible linguistic outcomes. He also comments that the opportunity to study other signed languages in addition to American Sign Language (ASL) offers a more solid basis to examine this issue more systematically.

This chapter suggests that a potential source of modality effect may lie in the use of space in the linguistic and discourse organization of nominal expressions in signed language. In fact, some researchers in this field have proposed that space plays a relatively more prominent role in signed language than in spoken language. As Padden (1990) claims, in spoken language space is only something to be referred to; it represents a domain in our mental representation in which different entities and their relations are depicted. On the other hand, space is physically accessible and used for linguistic representation in signed language. This includes not just the neutral signing space, but also space around or on the signer's body.[1] Poizner, Klima and Bellugi (1987) distinguish two different

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[1]   The space for representing syntactic relations with loci was originally proposed by Klima and Bellugi (1979) as a horizontal plane in front of the signer at the trunk level. Kegl (1985) argued that loci in the signing space are not restricted to this horizontal plane.

uses of space in signed language: spatial mapping and spatialized syntax. Spatial mapping describes through signing the topographic or iconic layout of objects in the real world. At the same time, certain syntactic or semantic properties like verb agreement, pronominal, and anaphoric reference also use locations or loci in space for their linguistic representation.

In fact, if objects and entities are being referred to through nominal expressions in natural language, the relationship between syntactic structure, space, and nominal reference in signed language requires a detailed examination. In a signing discourse, objects and entities are either physically present, or conceptually accessible through their associated loci in the signing space, or they are simply being referred to in the universe of discourse. A research question thus arises as to whether, or to what extent, the presence or absence of referents in the signing discourse influences the linguistic organization of nominal expressions in the language.

In what follows, we first present a description of the internal structure of the nominal expressions of Hong Kong Sign Language (HKSL). Where appropriate, comparative data from ASL and spoken languages such as English and Cantonese are also adopted. We illustrate how Hong Kong deaf signers encode (in)definiteness through syntactic cues, such as the structure of nominal expressions, syntactic position, as well as nonmanual markings. Toward the end of the chapter, we provide an account of the distribution and interpretation of certain nominal expressions in the HKSL discourse, using Liddell's (1994; 1995) concept of mental spaces. We suggest that the types of mental space invoked during signing serve as constraints for the distribution and interpretation of certain nominal expressions in the HKSL discourse.

12.2   Nominal expressions of HKSL

The possibility that the NP (noun phrase) structure in HKSL is similar to Cantonese can be readily refuted by the observation that NPs in HKSL that involve common nouns do not have a classifier phrase (CLP) projection (see Tang 1999).Cheng and Sybesma (1999) report that Cantonese is a numeral classifier language and the classifier phrase is projected between NumP and NP, yielding a surface order of [Det Num Cl N]. Following Allan's (1977) typology, HKSL belongs to the category of classifier predicate languages. Similar to ASL, the classifiers of HKSL are verbal rather than nominal, and they enter into the predicate construction of the language. Nominal expressions of HKSL show a syntactic order of [Det Num N], and referential properties such as (in)definiteness, genericity as well as specificity – which are encoded in part by classifiers in Cantonese – are marked by a difference in syntactic structure or position (preverbal or postverbal) in HKSL. Moreover, while all modifiers precede the noun in Cantonese, the syntactic order of nominal expressions in

Figure 12.1   INDEX$_{\text{det i}}$

HKSL appears to be quite variable because the data reveal that the pointing sign and the numeral sign may either precede or follow the noun.

12.3   Determiners

12.3.1   *Definite determiners*

Both definite and indefinite determiners are observed in HKSL. The pointing sign glossed as INDEX$_{\text{det}}$ is associated with a definite referent.[2] As illustrated in Figure 12.1, the index finger points outward, usually toward the location of the referent in the immediate physical environment or toward an abstract locus in space.

Like its ASL counterpart, INDEX$_{\text{det}}$ is found either prenominally or postnominally. However, a majority of our cases are prenominal. In ASL this sign in prenominal position is a definite determiner, equivalent to the English article 'the'; it also encodes the spatial location of the referent (1a). If it occurs in postnominal position, this sign would be interpreted as an adverbial 'here/there' (MacLaughlin 1997). In HKSL, this sign in prenominal position is also interpreted as a definite determiner (2a; see Figure 12.2), equivalent to the demonstratives 'nei go' (this) or 'go go' (that) in Cantonese.[3] Also, this sign does not yield an indefinite reading; (2b) is unacceptable unless it is interpreted as a demonstrative 'this' or 'that.' Although MacLaughlin (1997) suggests that the prenominal pointing sign is a determiner and the postnominal one is an adverbial, the HKSL data show that the postnominal pointing signs are ambiguous between a determiner and an adverbial (2c). If it is interpreted as an adverbial,

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[2] The view that a pointing sign in either prenominal or postnominal position is a definite determiner was put forward by Wilbur (1979). Zimmer and Patschke (1990) also suggest that this pointing sign in ASL may occur simultaneously with a noun.

[3] In HKSL the nearest equivalent gloss is THIS or THAT. This is probably due to the lack of an article system in Cantonese; a definite determiner is usually translated as 'nei go' ('this') or 'go go' ('that') in Cantonese. We leave open the issue of whether INDEX$_{\text{det}}$ represents an instance of the article system in HKSL.
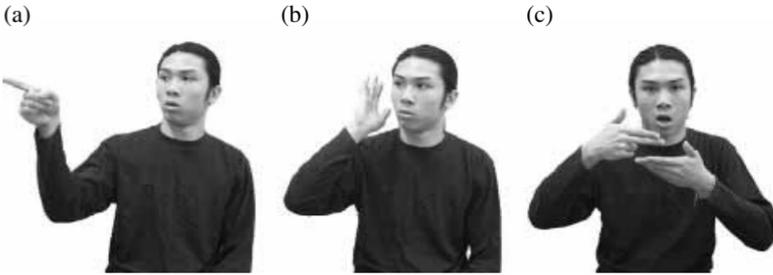
(a)   (b)   (c)

Figure 12.2 'That man eats rice': 12.2a INDEX$_{det\ i}$; 12.2b MALE; 12.2c EAT_RICE

it is possible that this adverbial is adjoined to N′ of the NP, hence leading to a different syntactic analysis.

Crucially, INDEX$_{det}$ in HKSL can be inflected for number in both prenominal and postnominal positions. In (2d), the postnominal INDEX$_{det}$ is inflected for plural by incorporating a circular movement into its articulation while the handshape remains unchanged (see Figure 12.3). This possibility of postnominal plural inflection suggests that postnominal INDEX$_{det-pl}$ can be a determiner in HKSL. Note that in ASL, the postnominal pointing sign, being only an adverbial, cannot be inflected for number (MacLaughlin 1997). Consistent with this observation, it is – according to our informants – odd to have both a prenominal and a postnominal pointing sign as shown in (2e) since the postnominal INDEX$_{det}$ can also be interpreted as a determiner.

(1) a. [IX$_i$ MALE]$_{DP}$ ARRIVE^4
         'The/That man is arriving.'   (MacLaughlin 1997:117)
         _____eg$_i$
(2) a. [INDEX$_{det\ i}$ MALE]$_{DP}$ EAT_RICE^5
         'That man eats rice.' _____eg$_i$
     b. JOHN WANT BUY [INDEX$_{det\ i}$ BOOK]$_{DP}$
         'John wants to buy that/*a book.'

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^{4} All manual signs of HKSL in this chapter are glossed with capital letters. Where the data involve ASL, they are noted separately. Hyphenation between two signs means that the two signs form a compound. Underscoring is used when more than one English word is needed to gloss the sign. Subscripted labels like INDEX$_{det}$ are used to state the grammatical category of the sign and/or how the sign is articulated. Subscripted indices on the manual sign or nonmanual markings like eye gaze (e.g. eg$_i$) are used to indicate the spatial information of the referent. INDEX$_{det\ i}$ means the definite determiner is pointing to a location i in space. As for nonmanual markings, 'eg$_A$' means eye gaze directed toward the addressee; 'eg$_{path}$' means eye gaze that follows the path of the hand; 'rs' refers to role shift in the signing discourse. In some transcriptions, RH refers to the signer's right hand and LH refers to the left hand.

^{5} Optionally, eye gaze may extend over only the initial determiner, rather than over the entire DP.
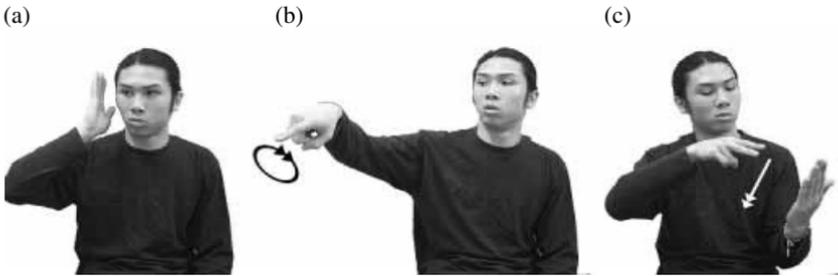
(a)   (b)   (c)

Figure 12.3 'Those men are reading': 12.3a MALE; 12.3b INDEX$_{dep\text{-}pl\ i}$; 12.3c READ

c. [MALE INDEX$_{det\ i/adv\ i}$]$_{DP}$ SLEEP
    '(That) man (that/there) is sleeping.'
d. [MALE INDEX$_{det\text{-}pl\ i}$]$_{DP}$ READ
    'Those men are reading.'
e. ??[INDEX$_{det\ i}$BOOK INDEX$_{det\ i/adv\ i}$]$_{DP}$ EXPENSIVE
    'That book there is expensive.'
    _____eg$_i$
f. [FEMALE-KID]$_{DP}$ COME
    'That girl is coming.'

According to MacLaughlin (1997), nonmanual markings in ASL are abstract agreement features contained in D.[6] When the manual sign is present, the markings may co-occur with it and their spread over the C-command domain of DP is optional. Definite referents are marked by head tilt and/or eye gaze. In HKSL head tilt is seldom used with INDEX$_{det}$ to mark a definite referent. Very often, this definite determiner sign is accompanied by eye gaze directed at the spatial location of the referent. This nonmanual marking may co-occur with the sign alone or spread to N (2a). If this sign is not present, eye gaze directed at the locus of the referent is obligatory (2f). These findings preliminarily suggest that the system of nonmanual agreement markings for definite referents between ASL and HKSL may be different. However, in both languages the nonmanual agreement markers co-occur with the manual sign in D and may optionally spread over the C-command domain of D. Also, nonmanual markings are obligatory when the manual sign is not present.

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[6] MacLaughlin (1997) argues that ±definite features and agreement features are located in D in ASL. Nonmanual markings like head tilt and eye gaze are associated with these semantic and syntactic features.

(a)   (b)
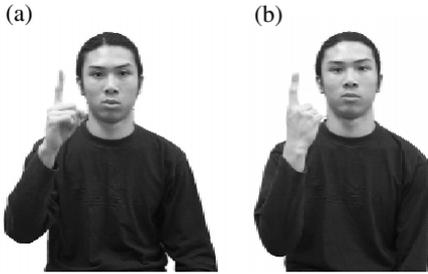
Figure 12.4a ONE$_{det/num}$; 12.4b ONE$_{num}$

12.3.2 Indefinite determiners

Neidle *et al.* (2000) suggest that SOMETHING/ONE$_{det}$ in ASL is an indefinite determiner and the degree of tremoring motion is associated with the degree of unidentifiability of the referent.[7] If a referent is maximally identifiable, the tremoring motion is minimal and the sign is almost identical to the numeral sign ONE$_{num}$. SOMETHING/ONE$_{det}$ is not directed toward a location, but a diffuse area in space.

There is a singular indefinite determiner in HKSL. This sign, glossed as ONE$_{det}$, is articulated with the same handshape used for the definite determiner but the index finger points upward instead of outward (see Figure 12.4a). Unlike the indefinite determiner in ASL, ONE$_{det}$ in HKSL does not involve a tremoring motion. This sign usually selects an N, forming a [ONE$_{det}$ N] constituent (3a). In both preverbal and postverbal positions, [ONE$_{det}$ N] is indefinite and specific (3a and 3b). This sign is ambiguous when it occurs in prenominal position because ONE$_{det}$ and ONE$_{num}$ are similar in terms of articulation (3a and 3b).[8] However, if it occurs in postnominal position, only a quantificational reading is expected (3c, d, e). Some older deaf signers mark number in postnominal position by rotating the forearm so that the palm faces the signer (see Figure 12.4b), which differs from the prenominal ONE$_{det/num}$ whose articulation shows contralateral palm orientation (see Figure 12.4a). ONE$_{det}$ is optional if the referent is singular, indefinite and specific (3f).

                                   _____eg$_A$

(3)   a. YESTERDAY [ONE$_{det/num}$ FEMALE-KID]$_{DP}$ COME
           'A girl came yesterday.'

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[7] Neidle *et al.* (2000) observe that SOMETHING/ONE may occur alone, and it is interpreted as a pronominal equivalent to English 'something' or 'someone.'

[8] A distinction suggested by MacLaughlin (1997) is the presence of stress in the articulation of numeral ONE. Our data shows that stress occurs only in postnominal ONE.

b. [MALE]$_{DP}$ KICK [ONE$_{det/num}$ DOG]$_{DP}$
   'The man kicked a dog.'
c. YESTERDAY [FEMALE-KID ONE$_{num}$]$_{DP}$ COME
   'One girl came yesterday.'
d. FATHER WANT BUY [DOG TWO$_{num}$]$_{DP}$
   'Father wants to buy two dogs.'
e. [[FEMALE ONE$_{num}$]$_{DP}$ [MALE ONE$_{num}$]$_{DP}$]$_{DP}$ 2_PERSON_SIT_
   NEXT_ TO_EACH_OTHER
   'One woman and one man sat next to each other.
   _____eg$_A$
f. [MALE]$_{DP}$ CYCLE
   'A man is cycling.'

As mentioned above, [ONE$_{det}$ N] is usually indefinite and specific. Sometimes, this constituent may be preceded by HAVE (see Figure 12.5), or ONE$_{det/num}$ is simply omitted, yielding a [HAVE N] sequence (4a,b). HAVE appears to be a loan sign from signed Cantonese 'jau' and has been quite established in the HKSL lexicon.

(4)   a. HAVE [ONE$_{det/num}$ FEMALE]$_{DP}$ STEAL DOG
          'A female stole a/the dog.'
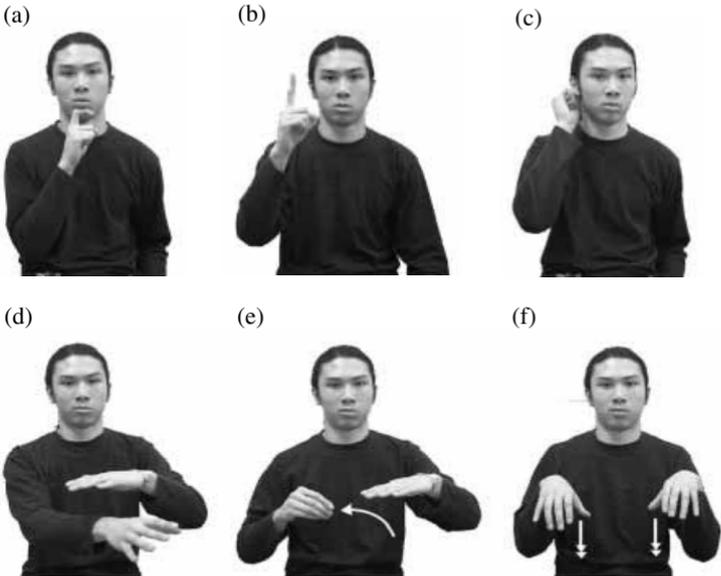

Figure 12.5 'A female stole a dog': 12.5a HAVE; 12.5b ONE$_{det/num}$; 12.5c FEMALE; 12.5d–e STEAL; 12.5f DOG

    b. HAVE [MALE]$_{DP}$ STEAL DOG
       'A male stole a/the dog.'

With [HAVE [ONE$_{det/num}$ N]$_{DP}$], the ONE sign is interpreted as a numeral and the sign sequence is similar to the existential constructions in Cantonese except for the absence of a classifier in the constituent:[9]

(5)   [Jau   [saam   zek   gai]$_{DP}$]   sei   zo
         Have three   cl   chicken   die   asp
         'Three chickens died.'

In terms of referential properties, [HAVE [ONE$_{num}$ N]$_{DP}$] or [HAVE [N]$_{DP}$] may refer to indefinite specific or nonspecific referents.[10] Note that [HAVE [N]$_{DP}$] or [HAVE [ONE$_{num}$ N]$_{DP}$] in HKSL does not occur in postverbal position, as in (6).

(6)   *[INDEX$_{det}$ MALE]$_{DP}$ BUY [HAVE [CAR]$_{DP}$]
        'That man bought a car.'

    In ASL, in addition to eye gaze, the indefinite determiner is "accompanied by a non-manual expression of uncertainty which includes a wrinkled nose, furrowed brows, and a slight rapid head shake" (Neidle *et al.* 2000:90). Head tilt has not been found to be associated with indefinite referents in ASL. If eye gaze to a location in space occurs during the expression of an indefinite, it targets a more diffuse area than a point in space. In HKSL eye gaze for indefinite specific referents seldom spans a diffuse area in space. Instead, it is directed toward the addressee (3a,f); unlike cases of definite reference, the signer does not break eye contact with the addressee. This pattern of eye gaze is extremely common when the signer introduces a new referent in the signing discourse;

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[9] 'Jau' ('have') in Cantonese is an existential verb which may be preceded by an adverbial such as 'nei dou' ('here') or 'go dou' ('there'):

    i. Nei dou   jau   saam   zek   gai
       Here   have   three   cl   chicken
       'There are three chickens here.'

Note that if the noun is singular and indefinite, the numeral is omitted, yielding a constituent like the one below:

    ii. Jau   zek   gai   sei   zo
        Have   cl   chicken die   asp
        'A chicken died.'

[10] [HAVE NUM N] usually refers to an indefinite specific referent. The numeral in this sign sequence can be postnominal, as in the utterance:

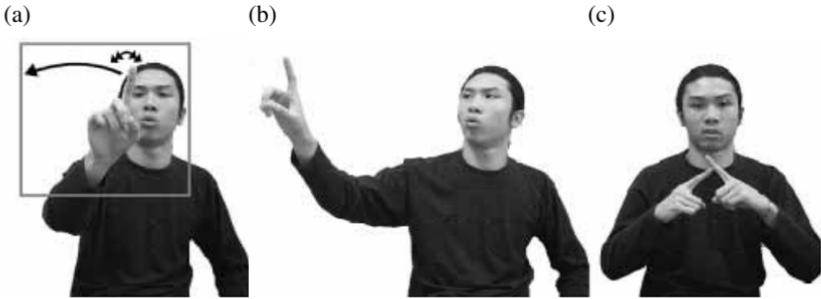   i. [HAVE MALE THREE]$_{DP}$ STEAL DOG
       'Three men stole a/the dog.'

(a)   (b)   (c)

Figure 12.6a–b ONE$_{det\text{-}path}$; 12.6c PERSON

with this pattern of eye gaze, the introduction of the new referent is interpreted as referring to a specific indefinite referent.[11]

What if the referent is indefinite and nonspecific? The data show that [ONE$_{det}$ N] in postverbal position may apply to a nonspecific indefinite referent (7a). However, when the signer wishes to indicate that he or she is highly uncertain about the identifiability of the referent, the index finger moves from left to right with a tremoring motion involving the wrist. This sign usually combines with an N, as shown in (7b) (see Figure 12.6) and (7c):

(7)   a. FATHER LOOK_FOR [ONE$_{det/num}$ POLICEMAN]
           'Father is looking for a/one policeman.'

                                        _____eg$_{path}$ _____eg$_A$
       b. [INDEX$_{pro\text{-}3p}$ BOOK]$_{DP}$ GIVE [ONE$_{det\text{-}path}$ PERSON]$_{DP}$
           'His book was given to someone.'
       c. [INDEX$_{det}$ MALE] WANT TALK [ONE$_{det\text{-}path}$ STUDENT]$_{DP}$
           'That man wants to talk to a student.'

[ONE$_{det\text{-}path}$ N] normally occurs in postverbal position and is accompanied by round protruded lips, lowered eyebrows and an audible bilabial sound. When this sign is produced, the signer's eye gaze is never directed at a specific point in space; instead, it follows the path of the hand, suggesting that there is no fixed referent in space. Note that this eye gaze pattern does not spread to the noun. Usually, it returns to the addressee and maintains eye contact with him (or her) when the noun is signed (7b). Alternatively, eye

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[11] Sometimes, a shift in eye gaze from the addressee to a specific location together with a pointing sign is observed when the signer tries to establish a locus for the new referent:

        ___eg$_A$ _____eg$_i$
    i. MALE INDEX$_{adv\ i}$ STEAL DOG
       'A man there stole the dog.'

This sign is taken to be an adverbial in our analysis.

gaze is directed at the addressee, maintaining eye contact with him throughout the entire DP. Unlike ASL, ONE$_{det-path}$ alone is not a pronominal and it is [ONE$_{det-path}$ PERSON] that is taken to be a pronominal equivalent to the English 'someone.' Relative to [ONE$_{det-path}$ PERSON], it seems that [ONE$_{det-path}$ N] is not yet established firmly in HKSL, as the informants' judgments on this constituent are not unanimous, as is the case for other nominal expressions. While all of our deaf informants accept [ONE$_{det-path}$ PERSON], some prefer [ONE N] or a bare noun to [ONE$_{det-path}$ N] for nonspecific indefinite referents.

In sum, in terms of nonmanual markings, definite determiners require that eye gaze be directed to a specific location in space. On the other hand, the signer maintains eye contact with the addressee when he introduces an indefinite specific or nonspecific referent to the discourse. However, variation is observed with the eye gaze pattern for indefinite nonspecific referents. The ONE$_{det-path}$ sign may also be accompanied by eye gaze that tracks the path of the hand.

12.4   Pronouns

It has been assumed that pronouns are determiners (Abney 1987; Cheng and Sybesma 1999). MacLaughlin (1997) argues that pronouns and definite determiners in ASL are the same lexical element, base-generated in D. In HKSL the pointing sign may be interpreted as a pronoun when signed alone, hence glossed as INDEX$_{pro}$. We assume that this manual sign is base-generated in D and has a [+definite] feature. It can be inflected for person and number (8a,b,c). Note also that (8d) is ambiguous; it can either be a pronominal or a demonstrative.

(8)   a. $\overline{}eg_i$
         [INDEX$_{pro-3p\ i}$]$_{DP}$ CRY
            'She cried.'
         b. [INDEX$_{pro-1p\ i}$]$_{DP}$ LOVE [INDEX$_{pro-3p\ j}$]$_{DP}$
            'I love him.'
         c. [INDEX$_{pro-1p\ i}$]$_{DP}$ LOVE [INDEX$_{pro-3p-pl\ j}$]$_{DP}$
            'I love them'
         d. [INDEX$_{pro-3p\ i/det\ i}$]$_{DP}$ TALL, [INDEX$_{pro-3p\ j/det\ j}$]$_{DP}$ SHORT
            'It/This (tree) is tall, it/this (tree) is short.'

In HKSL pronouns are optionally marked by eye gaze directed at the location of the referent in space, similar to the definite determiner (8a). Based on the observations made so far, INDEX$_{det}$ and INDEX$_{pro}$ are associated with the definiteness and agreement features in HKSL.

(a)   (b)
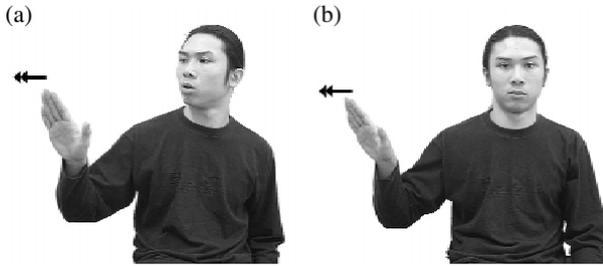
Figure 12.7a POSS$_{det\ i}$; 12.7b POSS$_{neu}$

12.5   Possessives

There are two signs for possessives in HKSL: a possessive marker, glossed as POSS, and a sign similar to INDEX$_{pro}$, which is interpreted as a possessive pronoun. Similar to ASL, POSS is articulated with a B handshape with all the extended fingers (thumb included) pointing upward. POSS may be neutral or inflected such that the palm is oriented toward the location of the possessor in space (see Figures 12.7a, 12.7b). As we shall see, this possessive marker is highly restricted in distribution in HKSL. It differs from ASL in the following respects. First, possessive DPs in HKSL that are transitive (i.e. categorize for a NP) do not have an overt possessive marker, as in (9a) and (9b). Therefore, (9c) is unacceptable in HKSL.[12]

(9)   a. $\overline{\qquad\qquad}$eg$_i$
            [PETER CAR]$_{DP}$ BREAK_DOWN
            'Peter's car broke down.'
        b. YESTERDAY I SIT [PETER CAR]$_{DP}$
            'I rode in Peter's car yesterday.'
        c. *[PETER$_i$ POSS$_i$ CAR] OLD
            'Peter's car is old.'

In ASL, possessive constructions require a possessive marker POSS that agrees with the possessor (10a). Alternatively, POSS is a pronominal in (10b). An equivalent structure in HKSL as shown in (11a) would be ruled out as ungrammatical and POSS does not occur before the possessee as a pronominal but INDEX$_{pro}$ does (11b):

(10)   a. [FRANK$_i$ POSS$_i$ NEW CAR]$_{DP}$ (ASL data from Neidle *et al.* 2000:94)

            'Frank's new car'

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[12] Some deaf signers accept this pattern; however, they admit that they are adopting signed Cantonese, and the sequence can be translated as 'Peter ge syu.' The morpheme /ge/ is a possessive marker in spoken Cantonese.

   b. [POSS$_i$ NEW CAR]$_{DP}$ (ASL data from Neidle *et al.* 2000:94)
      'his new car'

(11)   a. *YESTERDAY [POSS$_i$ NEW CAR]$_{DP}$ BREAK_DOWN
          'His new car broke down yesterday.'
                  _____eg$_i$
       b. [INDEX$_{pro-3p\ i}$ DOG]$_{DP}$ DIE
          'His dog died.'

In ASL, POSS occupies the D position and it becomes optional only when it is associated with inalienable possession (12):

(12)   [MARY$_i$ (POSS$_i$) EYE]
          'Mary's eye'

   Another difference between ASL and HKSL is that POSS in HKSL is re-stricted to the predicative possessive context. In the predicative context, if the possessor is not associated with a locus in space, POSS is uninflected (13a). If the referent is physically accessible for identification, such as (13b), POSS agrees with the spatial location of the referent. In this case, POSS may function pronominally as a genitive, similar to INDEX$_{pro}$ (see Figure 12.8).

(13)   a. [INDEX$_{det\ i}$ BOOK]$_{DP}$ [[WONG POSS$_{neu}$]$_{DP}$]$_{VP}$
             'That book is Wong's.'
                        _____eg$_j$
          b. [INDEX$_{det\ i}$DOG]$_{DP}$ [[POSS$_j$/INDEX$_{pro\ j}$]$_{DP}$]$_{VP}$
             'That dog is his.'

In (13a), we assume that the possessor surfaces in the specifier position of DP, and POSS is base-generated in D and contains a [+definite] feature. If the possessor is physically present or has already assumed a locus in the sign-ing space, either an independent POSS or INDEX$_{pro}$ is used in the predica-tive context, as shown in (13b). In this case, POSS is a pronominal and we
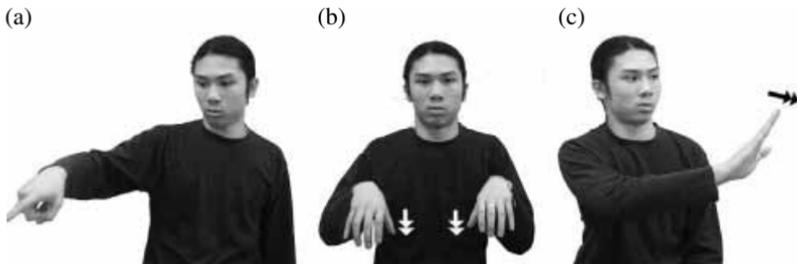
(a)   (b)   (c)

Figure 12.8 'That dog is his': 12.8a INDEX$_{det\ i}$; 12.8b DOG; 12.8c POSS$_{det\ j}$

assume that it occupies D, similar to INDEX$_{pro}$. Therefore, the orientation of the palm and direction of movement agree with the spatial location of the referent.

Neidle *et al.* (2000) propose that, in possessive constructions in ASL, head tilt is associated with the possessor and eye gaze with the possessee. As mentioned previously, head tilt as an agreement marker for definite determiners is seldom employed in HKSL, neither is there a distinctive division of labor of nonmanual markings for the possessor and the possessee in HKSL. Similar to the pronouns, POSS and INDEX$_{pro}$ in possessive constructions are usually accompanied by eye gaze at a specific location in space in a predicative context (13b; see Figure 12.7a).

In sum, we have provided a descriptive account of the syntactic constituents of the nominal expressions in HKSL. Despite some differences in the surface constructions of the languages being compared, the nominal expressions of HKSL show formal properties of linguistic structuring that have been discussed in the spoken language literature. The data suggest that a lexical category like the noun phrase in HKSL has above it a functional projection headed by a determiner located in D (compare Abney 1987). According to Longobardi (1994:613), a nominal expression is "an argument only if it is introduced by a category D." Therefore, the noun phrase that occupies an argument position in our analysis is assumed to be a determiner phrase and acquires its referential properties through D. The manual signs for the determiners, pronouns, and possessives – together with their associated nonmanual signs in HKSL – demonstrate functions of D that are hypothesized to be associated with the referential features such as ±definite and agreement features. Our data show that the head N is usually associated with these manual signs in D and the scope of nonmanual markings of D may cover N. Nevertheless, in the following sections, we turn to a phenomenon that might enable us to examine the modality issue in a different light. We propose that while the visual–gestural modality may not lead to a difference in linguistic structuring at the syntactic level, it may influence the distribution and interpretation of nominal expressions in the signing discourse.

12.6   Predominance of bare nouns: An indication of modality effects?

HKSL is similar to ASL in that both the definite and indefinite determiners may be optional. As such, bare nouns are quite common in HKSL. They may be definite (14a), indefinite specific (14b), indefinite nonspecific (14c), and generic (14d). Also, almost all bare nouns occur in either preverbal or postverbal positions. The only exception is that in preverbal position, a bare noun cannot be indefinite and nonspecific unless it is preceded by HAVE, forming a [HAVE (ONE) N] constituent (see Section 12.3.2). Recovery of the respective

referential properties is a function of the discourse context in which they occur.[13]

(14) a. $\underline{\quad\quad}eg_i$
        $[DOG]_{DP}$ CATCH MOUSE (definite)
        'The dog caught a mouse.'

    b. $\underline{\quad\quad}eg_A$
        I SEE $[DOG]_{DP}$ LIE $INDEX_{adv}$ (indefinite specific)
        'I saw a dog lying there.'

    c. $\underline{\quad\quad\quad\quad}eg_A$
        I GO CATCH $[BUTTERFLY]_{DP}$ (indefinite nonspecific)
        'I'll go and catch a butterfly.'

    d. $\underline{\quad\quad\quad\quad}eg_A$
        I LIKE $[VEGETABLE]_{DP}$ (generic)
        'I like vegetables.'

In a study of narratives in HKSL (Sze 2000), bare nouns were observed to refer to definite referents for about 40% of all the nominal expressions under study and 58% for indefinite and specific referents, as shown by examples (15a) and (15b):

(15) a. $[DOG]_{DP}$ CL:ANIMAL_JUMP_INTO_BASKET (definite)
        'The dog jumped into a basket.'
    b. $[MALE]_{DP}$ RIDE_A_BICYCLE   (indefinite specific)
        'A man is riding a bicycle.'

Many spoken languages do not allow bare nouns for such a wide range of referents. English bare nouns, for instance, refer to generic entities only. In Cantonese bare nouns only yield a generic reading. They cannot be definite in either preverbal or postverbal positions (16a). To be definite, the count noun 'horse,' if singular, requires a lexical classifier 'zek' to precede it and a mass noun like 'grass' is preceded by a special classifier 'di,' as shown in (16b) (Matthews and Yip 1994). In postverbal position, a bare noun may yield an indefinite nonspecific reading (16c).

(16) a. $[Maa]_{DP}$ sik $[cou]_{DP}$ (generic/*definite)
        Horse   eat   grass
        'Horses eat grass.'/*'The horse is eating the grass.'
    b. $[Zek$ $maa]_{DP}$ sik   gan $[di$ $cou]_{DP}$ (definite)
        cl   horse   eat   asp   cl   grass
        'The horse is eating the grass.'

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[13] It is not clear whether ASL exhibits a similar pattern of distribution with bare nouns. The data from Neidle *et al.* (2000) suggest that bare nouns in both preverbal and postverbal positions can be either indefinite or definite.

c. Ngo   soeng   heoi   maai   [syu]_DP (indefinite nonspecific)
   I   want   go   buy   book
   'I want to buy a book.'

In what follows, we discuss the distribution of nominal expressions, in particular that of bare nouns in HKSL discourse. Although the effect of modality on linguistic structure may be minimal at the syntactic level, we would like to suggest that factors pertinent to a signing discourse may lead to differences such as the distribution and interpretation of bare nouns. These factors can be described in terms of the types of mental spaces invoked by the signer during the flow of discourse, as well as the physical and conceptual location of the referents in these mental spaces. One can view the interpretation of nominal expressions in a signing discourse as a result of the interaction between the signer's knowledge of the syntactic properties of the nominal expressions, their respective referential properties and the type of mental space invoked.

12.7   Mental spaces and nominal expressions: Toward an explanation

Liddell (1994; 1995; 1996) argues that there is a relationship between mental spaces and nominal reference. In the spirit of Fauconnier (Fauconnier 1985; 1997), he argues that mental spaces are conceptual domains of referential structure that people talk about and that can be built up during discourse as a common ground between the speaker and the addressee. In signed language analysis, Liddell conceptualizes space, as having three types: real space, surrogate space, and token space.[14]

Real space is a conceptual representation of the current, directly perceivable physical environment. When the referents are present in the immediate environment, they are represented in the real space of the signer. Pointing signs or indicating verbs that serve a deictic function would be used because they entail locational information of the referent in the real world. In surrogate space, the referents are not physically present. However, the signer can introduce them into the discourse as surrogate entities in that mental space. Reference to these surrogates can be made through pointing signs, indicating verbs or role shift. According to Liddell, surrogates may take first, second, and third person roles.[15]

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[14] Liddell's concept of mental spaces actually differs from Fauconnier's. The types of mental spaces as described by Fauconnier (1985) are nongrounded (i.e. not in the immediate environment of either the speaker or the addressee) and not physically accessible. The mental spaces proposed by Liddell may be grounded and physically accessible.

[15] We leave the debate on person distinctions in signed language open. For example, Meier (1990) argues that ASL does not distinguish second and third person in the pronominal system.

In token space, conceptual entities are given a manifestation in confined, physical space. They usually assume a third person role.

According to Liddell, and subsequently Liddell and Metzger (1998), all these mental spaces are grounded mental spaces, and the conceptual entities within each of them can be referred to as part of the signer's perception of the context. They are not linguistic representations, but conceptual structures perceived by the signer for meaningful mental representations of conceptions, things, events, etc. However, they influence the nature of linguistic representations whose use they underline. It is argued that spatial loci do not contain agreement features but reflect location of referents only, and the pointing signs directed toward them are deictic rather than anaphoric. While agreeing with Liddell's proposal that mental spaces being conceptual structures are essentially the same regardless of the modality of communication, we adopt the position that, in signed language, spatial loci contain agreement features for the manual and nonmanual markings of the signs directed toward them. Space in signed language is both functional and linguistic and its role changes according to the level of representation that the grammar is associated with.

At the discourse level, the choice of grammatical reference in signed language is a function of how "active" or "identifiable" a referent is in the conceptualizer's awareness as well as the type of mental space selected.[16] Therefore, it is highly likely that less complex nominal expressions such as bare nouns are used when the discourse content is sufficient for the signer to identify the referent. In fact, research on pronominal reference suggests that there is considerable uniformity across signed languages in the use of space for referential and anaphoric purpose. Also, pronouns of signed language exhibit a high degree of referential specificity since spatial location allows for the unambiguous identification of referents (Poizner, Klima and Bellugi 1987; McBurney this volume). If the referents are physically present or have already been assigned a referential locus, less complex nominal expressions are likely to be used because identification of the referent in this case does not require a great deal of lexical content.[17]

Generally speaking, referential properties in spoken languages like English or Cantonese are conveyed by linguistic cues such as the article system, syntactic structure, or syntactic position. However, in HKSL we observe that the mental spaces invoked by the signer interact with these linguistic cues in establishing grammatical reference through the language.

[16] Little signed language research to date has been conducted using the concept of mental spaces; and most existing studies are concerned with pronominal reference and verb types in signed language (Liddell 1995; van Hoek 1996).

[17] Null arguments are also common in signed languages, and recently there has been a debate on the recoverability of null arguments. Views have diverged into recoverability via discourse topics (Lillo-Martin 1991) or via person agreement (Bahan *et al.* 2000).

12.7.1   *Bare nouns*

In the absence of a determiner, the reference of bare nouns in HKSL may be identified via eye gaze. While eye gaze at a specific location in space is observed to be associated with definite referents, maintaining eye gaze at the addressee suggests indefinite referents. We observe that the occurrence of bare nouns is also dependent upon the type of mental space invoked as well as the accessibility of the referents' spatial information.

If real space is being invoked in the signer's consciousness, the referents are physically present in the immediate environment. In this case, the signer generally resists using a bare noun to introduce a new referent into the signing discourse or to refer to a previously mentioned referent. Instead, INDEX$_{pro}$ is used since the referent is perceived by the signer to be maximally accessible in real space. In other words, the signer assumes that the addressee is also cognizant of the presence of the referent in the physical environment whose spatial location is expressed by INDEX$_{pro}$ and its respective eye gaze. If the referent is relatively further away from the signer but lies within a visible distance, [INDEX$_{det}$ N] would be used.

Bare nouns appear to be quite common in surrogate space and are used to refer to either definite or indefinite referents. As mentioned, to introduce an indefinite specific referent with a bare noun, the signer generally maintains eye contact with the addressee. This finding corroborates the observation of Ahlgren and Bergman (1994) with regard to Swedish Sign Language. Also, if the context is transparent enough to allow unambiguous identification of the referent, a bare noun is selected with eye gaze at the addressee (17):

                    ————————rs$_{\text{body shifts left}}$
         ————eg$_A$ ————eg$_A$
(17)   [MALE]$_{DP}$ HIT$_i$ [WOMAN]$_{DP}$
          'A man hit a woman.'

In this context, the narrator is describing an event that happened the night before. It involves a man hitting a woman. After introducing the man, the deaf signer assumes the role of the male referent and hits at a specific location on his right before he signs WOMAN, suggesting that the woman is standing on the right side of the man who hits her. In both instances, the deaf signer gazes at the addressee for MALE and WOMAN but his gaze turns to the direction of the woman surrogate when he signs HIT.

We also found role shift to accompany bare nouns in HKSL; here, it is usually associated with definite specific referents (18):

(18)   _____eg_A   _____eg_A
        [MALE]_DP CYCLE KNOW[MALE]_DP BACK,

        _____rs_body leans backward
        [MALE]_DP DRIVE_CAR BE_ARROGANT PRESS_HORN
        'A man who was riding a bicycle knew that there was a male driving
        a car behind him. The driver was arrogant and pressed the horn.'

This narrative features a driver and a cyclist. The cyclist in front notices that
there is a driver behind him. The driver arrogantly sounds the horn. Both men
in the event are introduced into the discourse using eye gaze directed at the ad-
dressee. However, to refer to the driver again as a definite referent, the signer's
body leans backward to assume the role of the driver. Therefore, role shift in this
example is associated with a definite referent in surrogate space. However, role
shift appears to be more functional than grammatical since the data show that
this nonmanual marking spreads over the entire predicate (18). In other words,
role shift seems to cover the entire event predicate rather than a single nominal
expression.

   Nevertheless, the use of eye gaze at the addressee to introduce an indefinite
specific referent as shown in (17) and (18) is quite common among the deaf
signers of HKSL. Alternatively, the signer may direct his eye gaze at a specific
location in space in order to establish a referential locus for the referent. The
latter phenomenon is also reported in Lillo-Martin (1991).

   In a definite context, the bare noun is associated with either eye gaze directed
at the locus or role shift (19):

                        _____rs_body shifts left
        _____eg_A __eg_j _____eg_j _____eg_j
(19)   [MALE]_DP SEE_j [BEGGAR]_DP GIVE_j MONEY
        'A man saw the beggar and gave money (to the beggar).'

In this example, the male is perceived by the signer to be on the left of the
beggar. When signing MALE, the signer's eye gaze is directed at the addressee.
When he signs SEE, he shifts his body to the left to assume the role of the man,
suggesting that the man is on the left of the beggar. Note that, through eye gaze,
the object of the verb SEE agrees with the location of this 'surrogate' beggar in
space. His eye gaze continues to fix at that location when he signs BEGGAR
in the neutral signing space. This bare noun refers to a definite referent because
the beggar is already established in the previous discourse. In this example, the
signer maintains this shifted position once he assumes the role of the man; he
further signs GIVE whose indirect object agrees with the locus of the beggar.
Therefore, even if the referent for MALE is not assigned a locus in surrogate
space, role shift helps to identify the referent, and the verb has to agree with
the shifted position as subject.

In our data, there are fewer bare nouns in token space than in surrogate space. It could be that token space is invoked particularly upon the production of classifier predicates. In this case, the referents are usually perceived to be maximally accessible and INDEX$_{pro}$ is common. In fact, Liddell (1995) observes that the entities (tokens) in this type of mental space are limited to a third person role in the discourse. Nevertheless, occasional instances of bare nouns are found, as shown by the following example:

(20)   _____eg$_i$ _____eg$_j$
         MALE PERSON_BE_LOCATED$_i$, FEMALE PERSON_BE_LOCATED$_j$,
         ____eg$_j$ ___eg$_i$
         INDEX$_{pro-3p\ j\ j}$SCOLD$_i$, MALE ANGRY, WALK_TOWARD $_i$HIT$_j$
         'A man is located here. A woman is located here (The man is placed
         in front of the woman). She scolds him. The man becomes angry.
         He walks toward her and hits her.'

In this example, a man is standing in front of a woman who keeps scolding him. The man becomes angry, walks toward the woman and hits her. The first mention of the man and woman is indefinite specific, and the signer is gazing at the addressee. As the discourse continues, the male is mentioned again; instead of using an INDEX$_{pro-3p}$, as we observe with the second mention of the woman referent, a bare noun is used but the eye gaze is directed toward a human classifier (token) located at a specific point in space. It clearly indicates that the bare noun in this context is referring to a definite referent.

Generally speaking, with the adoption of different forms of eye gaze, the referential properties of bare nouns can be established. This is possible because the three types of mental space provide a conceptual structure for the comprehension of reference and coreference, and deaf signers capitalize on the functions and constraints of these mental spaces. Where the relation between meaning and referent is transparent or identifiable, a bare noun instead of a complex nominal expression is preferred.

12.7.2   Determiners

As discussed previously, a definite determiner necessarily agrees with the spatial location associated with the referent. It follows that if a signer does not conceptualize a location in the signing space for the referent, definite determiners would not be used. In fact, INDEX$_{det}$ in HKSL can be associated with both proximal and distal referents in surrogate space, as in (21a) and (21b):

(21)   a. _____eg$_i$
            [INDEX$_{det\ i}^{(center-downward)}$ KID]$_{DP}$ SMART   (proximal surrogate)
            'This kid is smart.'

$$\overline{}\text{eg}_i$$

b. [INDEX$_\text{det i}^\text{(center-forward)}$ MALE]$_\text{DP}$ SMART   (distal surrogate)
  'That man is smart.'

INDEX$_\text{det}$ in the above situations is used instead of INDEX$_\text{pro}$ although both may be used for proximal referents. It may be that surrogate space is perceptually more remote than real space in the signer's consciousness. A referent physically located in real space may be regarded as more accessible than an imagined surrogate even if the latter occupies the same location in surrogate space. Therefore, INDEX$_\text{det}$ to refer to a definite referent is preferred in surrogate space rather than in real space.

12.7.3   Pronouns

Although a pronoun normally implicates full accessibility and identifiability of its referent through anaphoric relations, given a situation where there is more than one referent in the discourse, the use of pronouns might fail the principle of identifiability. A third person pronoun in Cantonese is phonetically realized as 'keoi' ('he/she/it') and interpretation is crucially dependent upon contextual information. INDEX$_\text{pro}$ in HKSL typically provides spatial location of the referent in the signing space, leading to unambiguous identifiability. In Cantonese, where more than one referent is involved, a complex nominal expression or proper name is used instead to identify the referent in the discourse. In HKSL, INDEX$_\text{pro}$ is seldom ambiguous, since it is directed at the referent either in the immediate environment or via its conceptual location in space. As a consequence, INDEX$_\text{pro}$ is found in all kinds of mental spaces, but more prominently in real space and token space. In token space, it is common to use INDEX$_\text{pro}$ directed at the classifier in the predicate construction. Prior to the articulation of (22), a locative predicate is set up in such a way that the father is located on the left and the son on the right. Both referents are represented by a human classifier articulated with a Y handshape with the thumb pointing upward and the pinky finger downward:

(22)
$$\overline{}\text{eg}_i$$
  LH: FATHER PERSON_BE_LOCATED$_i$........................

$$\overline{}\text{eg}_j$$
  RH: SON PERSON_BE_LOCATED$_j$

  LH: .... $_i$SHOOT$_j$
$$\overline{}\text{eg}_i$$
  RH: INDEX$_\text{pro i}$ PERSON_BE_LOCATED$_j$ ....
  'The father is located on the left of the signer and the son is on the right. He (the father) shot him (the son).'

Having set up the spatial location of the two referents through the locative predicates, the signer produces INDEX$_{pro}$ with his right hand (RH), directing it at the human classifier (i.e. the father) located on the left (LH). Note that the eye gaze that accompanies INDEX$_{pro}$ is also directed at the referent (i.e. the father) in this token space. The right hand (RH) then retracts to the right and re-articulates a locative predicate with a human classifier referring to the son. The left hand (LH) changes to SHOOT showing subject–object agreement, indicating that it is the father who shoots the son. The specific location of the tokens in space as depicted through the classifier predicates favors the occurrence of INDEX$_{pro}$ in subsequent signing.

12.7.4   *Possessives*

Our discourse data show that predicative possessive constructions that contain POSS are common in real space (23a,b). What triggers such a distribution? We argue that the presence of the referent, especially the possessee, in the immediate physical environment is a crucial determinant. To refer to the possessee that is physically present, a pronominal index as grammatical subject with eye gaze at a particular location is observed. It is usually followed by a predicative possessive construction in which POSS may function as a possessive marker or a pronominal (23). When the possessor is not present, as in (23a), [possessor POSS$_{neu}$] is adopted in the predicative construction and it is usually directed toward the signer's right at the face level while the signer maintains eye contact with the addressee. Even if the possessor is present, as in (23b), the sign for the possessor JOHN is optional but POSS has to agree with the specific location of the possessor in space.

(23)   a.   _____eg$_i$ _____eg$_i$
   [INDEX$_{pro\text{-}3p\ i}$]$_{DP}$ [JOHN POSS$_{neu}$]$_{DP}$, [INDEX$_{pro\text{-}3p\ i}$]$_{DP}$ SICK
   'It (the dog) is John's. It is sick.'   (possessee present, possessor not present)

   b.   _____eg$_i$ _____eg$_j$ _____eg$_i$
   [INDEX$_{pro\text{-}3p\ i}$]$_{DP}$ [(JOHN) POSS$_j$]$_{DP}$, [INDEX$_{pro\text{-}3p\ i}$]$_{DP}$ SICK
   'It (the dog) is his. It is sick.'   (possessee present, possessor present)

If the possessee is absent in the physical environment, to refer to it in real space, a full possessive DP in the form of [possessor possessee] would be used (24,25):

_____eg$_i$

(24)   [INDEX$_{pro-3p\ i}$ DOG]$_{DP}$ SICK   (possessor present, possessee
                                                    absent)

        'His dog is sick.'

In (24), INDEX$_{pro}$ is interpreted as a possessive pronoun that selects a noun as its complement. In (25) a full determiner phrase is used to refer to a definite referent, and the nonmanual marking for INDEX$_{det}$ has to agree with the location of the possessor, which is assumed to be distant from the signer.

_____eg$_i$

(25)   [INDEX$_{det\ i}$MALE DOG]$_{DP}$ SICK   (possessor present, possessee
                                                      absent)

        'That man's dog is sick.'

Where both the possessor and the possessee are absent from the immediate environment, a possessive DP in the form of [possessor possessee] is observed without any specific nonmanual agreement features (26).

(26)   [JOHN DOG]$_{DP}$ SICK   (possessor absent, possessee absent)
        'John's dog is sick.'

To summarize, one can observe that, in real space, the choice of possessive constructions is determined in part by the presence or absence of the referents in the immediate physical environment.

12.8   Conclusion

The data described in this chapter show that while conforming to general principles of linguistic structuring at the syntactic level, the nominal expressions in HKSL display some variation in nonmanual markings and syntactic order when compared with ASL. First, while it has been claimed that unique nonmanual markings including both head tilt and eye gaze are abstract agreement features for D in ASL, data from HKSL show that only eye gaze at a specific location is a potential nonmanual marker for definiteness. Eye gaze at a specific location in space co-occurs with a definite referent, but maintaining eye contact with the addressee is associated with an indefinite referent.

Second, there appears to be a subtle difference between signed and spoken languages in the types of nominal expressions that can denote (in)definiteness. We observe that bare nouns are common in HKSL and they are accompanied by different nonmanual markings to refer to definite, indefinite, and generic referents. Definite bare nouns may also be reflected by the signer's adoption of role shift in our data. Third, we observe that there is a relationship between the type of mental spaces and the distribution of nominal expressions for referential purpose. This reflects the signer's perceived use of space in the signing

discourse, in particular his or her choice of mental spaces for the representation of entities and their relations. Nevertheless, the analysis shows a reliance on narrative data. More data, especially those from free conversations or from other signed languages, are sorely needed in order to verify the observations presented in this chapter.

Acknowledgments

12.9   References

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