Nonmanual markings for topic constructions in Hong Kong Sign Language

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Across sign languages, topic constructions are marked by nonmanual features such as a brow raise and head tilt. This study investigates whether a topic constituent is marked nonmanually in Hong Kong Sign Language. Spontaneous and elicited data show that the majority of 'scene-setting' topics, which provide a temporal, spatial or individual framework for the proposition in the sentence, are accompanied with a brow raise and a specific head/body position different from the rest of the sentence. In contrast, 'aboutness' topics that represent what a sentence is about are neither marked by nonmanuals consistently nor separated intonationally from the rest of the sentence. Grammatical objects fronted to the sentence-initial position are not marked nonmanually, either. The findings suggest that there are cross-linguistic differences with respect to the functions of nonmanuals in the information structuring of sign languages.

Keywords: 'scene-setting' topics, 'aboutness' topics, nonmanual markings, fronting of grammatical objects, Hong Kong Sign Language

1. Introduction

In the sign language literature, topic constructions are widely reported as being marked by nonmanual features such as a brow raise, a head tilt, and a pause which sets the topic constituent off the rest of the sentence intonationally (Liddell 1980; Janzen 1999; Aarons 1996; Rosenstein 2001; Coerts 1992; among others). This study investigates whether topic constituents are marked consistently by nonmanuals in Hong Kong Sign Language (henceforth HKSL). Evidence from spontaneous and elicited data suggest that only 'scene-setting' topics, but not 'aboutness' topics and fronted grammatical objects, are marked nonmanually in HKSL.

This paper begins with a review of some of the controversies surrounding the notion of 'topic' in spoken languages and presents the general findings with respect to topics in sign languages (Section 2 and 3). Section 4 provides a definition

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of the notion of topic that is adopted in this study. Section 5 elaborates on the methodology and the data of the study. Section 6 discusses the markings of two types of topic constituents (i.e., 'aboutness' topics and 'scene-setting' topics) and the markings of preposed grammatical objects. A genereal discussion in Section 7 concludes the paper.

2. Topics in spoken languages

2.1 Some areas of controversies

When people communicate, there is a natural tendency to establish a shared common ground in order to facilitate the conveyance of new information. This common ground serves as an anchor to link the current sentence to the previous discourse. In the spoken language literature, diverse terminologies have been proposed to label this less informative, anchoring part of a sentence: presupposition, theme, topic, link, etc. In this paper, I will use the term 'topic' throughout the discussion.

Despite the intense attention linguists have paid to the notion of 'topic', it has remained notoriously elusive and there has been no unanimously accepted definition (Reinhart 1981; Davison 1984; Gundel 1988a; Prince 1997; Birner & Ward 1998; Maslova & Bernini 2006, among many others).[1] In what follows, I will focus on a few areas of controversies on 'topic' in spoken languages and highlight their implications for researchers who investigate topic constructions in any language.

In the literature, it is commonly held that a topic represents what the speaker wants to talk about and the rest of the sentence provides a comment to the topic. The topic is by default the grammatical subject, typically human and agentive, and can be realized as the sentence-initial constituent in three distinct syntactic constructions (example 1 to 4):[2]

1. For a detailed review on the notion of topic in the literature, see Vallduví (1992) and Sze (2008b).

2. In the literature, diverse covering labels are given to these constructions. For example, 'hanging topic', 'left dislocation', and 'topicalization' are all known as 'syntactic topic' in Gundel's writings (Gundel 1988a, 1988b). In Van Oosten's (1986: 32) terminology, however, only hanging topics are called 'syntactic topics'. In contrast, Davison (1984: 806) considers all three types of topic constructions together with those realized in other syntactic positions 'sentence topic'/'topic'. Maslova & Bernini (2006) categorize topicalization, left-dislocation, and passivization as instances of 'packaging topic'. To avoid confusion, I will call these topic-related structures 'hanging topic', 'left-dislocation', and 'topicalization' respectively in this paper.

(1) *Neike shu, yezi da.* (Mandarin, Li & Thompson 1976: 469)
that tree, leaves big
'That tree (topic), the leaves are big (comment).'

(2) *Nihon wa syuto ga sumi-yo-I.* (Japanese, Chen 1996: 396)
Japan TOP capital NOM live-good-PRS
'As for Japan (topic), its capital is a good place to live.'

(3) Those guys$_i$ (topic), strangely, no one has seen them$_i$ in weeks.
(Davison 1984: 807)

(4) Cheese$_i$ (topic), often people have strong feelings about _$_i$. (Davison 1984: 807)

The above examples show different degrees of syntactic integration of the topic into the rest of the sentence. In (1) and (2), the topic does not bear any syntactic relation with the verb, nor is it co-referential with any argument in the clause. This kind of topic is called a hanging topic (Maslova & Bernini 2006) or a double subject construction.[3] In (3), the topic is coreferential with a pronominal within the sentence and this structure is called left-dislocation (Ross 1967). The topic 'cheese' in example (4) is moved from the position following 'about' to the sentence-initial position and is co-indexed with a gap in the sentence. The grammatical process via which a constituent is preposed to the beginning of a sentence is widely known as topicalization (Ross 1967).

While it is generally accepted that examples (1) and (2) are instances of topic constructions, the question whether left-dislocation (3) and topicalization (4) represent sentence topics remains an issue of heated debates. Some studies suggest that left dislocations perform topic-related functions, e.g., introducing a new topic (Gundel 1985; Rodman 1974; Geluykens 1992), marking a topic (Halliday 1967; Reinhart 1981; Davison 1984; Lehmann 1988; Keenan 1977), or marking a new information unit (Halliday 1967; Geluykens 1992). Nonetheless, a different view is discussed by Prince (1998), who provides evidence from natural English speech data that left dislocations may serve some other functions, e.g., removing a new entity which appears in the discourse for the first time from a syntactic position disfavored for discourse-new entities and creating a separate processing unit for it. Similar controversies can also be found in the studies on topicalization. While some researchers propose a topic- or focus-marking function for topicalization (see Lambrecht (1994) for a discussion of English, German, and French; Gundel & Fretheim (2003) for Norwegian and Finnish), others posit entirely different

3. A hanging topic is also known as a base-generated topic, a Chinese-style topic (Chen 1996), a scene-setting topic (Lambrecht 1994; Chafe 1976), a frame-setting topic (Jacobs 2001) or a free topic (Jacobs 2001) in the literature.

discourse functions, e.g., topicalization triggers an inference on the part of the addressee that the stressed constituent within the clause is the focus (Prince 1981, 1998).[4]

The unsettled controversies over the function of left dislocation and topicalization in the spoken language literature undoubtedly signal the potential risk of ascribing pragmatic functions to syntactic structures in an a priori fashion because there may not be a direct mapping between syntax and pragmatics. As Gundel & Fretheim (2003: 183) comment, "the relation between surface syntactic form and topic-focus structure is complex and there is no simple one-to-one correlation between topic or focus and particular syntactic constructions, either across or even within particular languages." Hence, we should not assume that topicalized and left dislocated constituents in any language necessarily represent sentence topics without other supporting evidence.

Another area of controversy that deserves further attention is whether a topic necessarily comes first in a sentence. The idea that topics always occupy the sentence-initial position has a fairly long tradition in the literature. An extensive discussion of topic/theme being the sentence-initial element can be found in the papers by Prague School linguists (Firbas 1966). In the Theme/Rheme approach by Halliday (1967, 1994) and the Link-Tail-Focus Theory by Vallduví (1992), the topic ('theme' and 'link' in their terminologies respectively) is narrowly defined as the first syntactic element in a sentence. This topic-first hypothesis is probably further reinforced by the seminal paper on topic prominence by Li & Thompson (1976), who claim that in all the languages they have examined, topics always occupy the sentence-initial position. They attribute this topic-first discourse strategy to a natural consequence of serialization of linguistic information in speech.

Typological studies, however, provide counter evidence to the topic-first principle. Gundel (1988b) reports that both topic-comment and comment-topic structures are found in her sample of thirty languages. A similar generalization is put forward by Givón (1983), who suggests that both topic-comment and comment-topic sequences are observed in pidgins, and that very often pragmatic factors are involved in determining which elements come first in languages with a less rigid word order. These observations echo the findings of Herring (1990), who looks at how topic and focus are encoded in syntax in thirty-six languages of different word order types. Herring discovers that languages may use preposing but not postposing structures in representing new topics regardless of word order types, whereas old topics can be represented either by preposing or postposing structures. These observations, as well as the controversies over the functions of topicalization and

4. See Birner and Ward (1998) for other non-topic/focus functions of topicalization in English.

left dislocation mentioned earlier, call for a definition of topic which is not based on syntactic structures alone.

Besides the issue of the syntactic distribution of topics, there is also disagreement about the semantic/pragmatic nature of topics. Some researchers argue that, for a topic to be felicitous in a discourse, both the speaker and the addressee need to be familiar with it and are currently attending to it at the time of the utterance (Prince 1981; Gundel 1985, 1988a, 1988b). As such, topic expressions are very often definite rather than indefinite. Li & Thompson (1976: 461) state that this requirement of definiteness is absolute and universal, and it is one of the primary characteristics of sentence topics. Not all linguists share this view, however. Reinhart (1981), for instance, argues that topics only need to be referential because in English, a left-dislocated NP topic can be indefinite and unidentifiable to the addressee. Since this difference in the semantic/pragmatic requirements has a significant consequence in what kind of structures may be subsumed under 'topic constructions', researchers need to state explicitly which semantic/pragmatic requirements are assumed for the working definition of topic.

2.2 Markings of topics in spoken languages

Crosslinguistically, topics are formally coded by syntactic structure, intonation or morphological markers (Gundel 1988b; Jacobs 2001). For example, Mandarin marks topics by the sentence-initial position. In German, topics are marked by a rising tone whereas topics in English are signaled by a falling contour immediately followed by a rise (Büring 1997: 5). In Japanese, the topic constituent is marked by the morpheme *wa*. These formal devices, however, do not always mark topics unambiguously. Davison (1984) argues that it is a general property of topic-marking in human languages that no grammatical entity, morpheme or phrase structure configuration exists which uniquely means 'topic'. For instance, the Japanese *wa* has a contrastive function besides being a topic-marker. In Hua, the interrogative clause marker *mo* means 'if' when it is combined with two clauses, and 'contrast/topic' when combined with an NP (Haiman 1978). Apart from serving other discourse functions, topic markers are seldom obligatory. In English, for example, a sentence topic may be, but is not necessarily, marked by low pitch prominence (Lambrecht 1994: 121). Gundel (1988b) also observes that, crosslinguistically, the use of topic markers appears to be optional, a fact that distinguishes them from case marking particles.

In light of the unreliability of formal markings, various researchers argue for the importance of discourse context or other pragmatic factors in determining the

topic in a sentence (e.g., Van Oosten 1986; Büring 1997).[5] In fact, even if topics in a language appear to be consistently accompanied by a formal marker, that marker should not be used to define and identify topics, because the possibility exists that some topics may not be marked overtly and that the marker may also serve some other functions.

3. Topic constructions in sign languages

In this section, let us turn to the topic constructions in sign languages. Quite a number of studies have pointed out that topics or topicalized constituents are marked nonmanually in sign languages. Some of these studies are listed below:

- American Sign Language (ASL): Fischer (1974, 1975), Liddell (1980), McIntire (1980), Padden (1988), Isenhath (1990), Janzen (1995, 1997, 1999), Aarons (1996), among others.
- Sign Language of the Netherlands (SLN/NGT): Coerts (1992)
- Israeli Sign Language (ISL): Rosenstein (2001)
- Australian Sign Language (Auslan): Johnston & Schembri (2007)
- British Sign Language (BSL): Sutton-Spence & Woll (1999)

Examples (5) to (10) illustrate selected topic constructions from these studies.

(5) t
CAT DOG CHASE
'As for the cat, the dog chased it.' (ASL, Liddell 1980: 30)
- Type of topic construction: *preposed object*
- Nonmanual topic marker: *brow raise*, *head tilt*, *the topic constituent is held a bit longer*
- Function of the topic-marked constituent: *represents old information*

(6) t
TICKET, IX$_1$ GET FINISH
'Those tickets, I got them.' (ASL, Padden 1988: 91)
- Type of topic construction: *preposed object*
- Nonmanual topic marker: *raised eyebrows*
- Function of the topic-marked constituent: *represents focus or emphasis*

5. Van Oosten (1986: 21) argues that "it is impossible to say for sure what the sentence topic of a sentence is without context". In his study of the relationship among intonation, topic, and focus, Büring (1997: 28) also states explicitly that "a proper understanding of context is crucial for the understanding of the effects of intonational marking and even word order variation".

tm1

(7) JOHN NOT-LIKE JANE. MARY, IX_3 LOVE
'John doesn't like Jane. *Mary*, he loves.' (ASL, Aarons 1996: 76)
- Type of topic construction: *preposed object*
- Nonmanual topic marker: *raised brows, head tilted slightly back & to the side, eyes widened, head moves down and forward*
- Function of the topic-marked constituent: *contrastive focus*

tm2

(8) VEGETABLE, JOHN LIKE CORN
'As for vegetables, John likes corn.' (ASL, Aarons 1996: 78)
- Type of topic construction: *hanging/base-generated topic*
- Nonmanual topic marker: *large movement of the head backwards and to the side, raised eyebrows, and eyes wide open*
- Function of the topic-marked constituent: *introduce new information in a general universe of discourse that would change the topic of the discourse*

(9) ORANGE ORANGE, PUT NOSE
orange (fruit) orange (color) place (it) as a nose
'As for the orange, (the boy) placed it as a nose.' (ISL, Rosenstein 2001)[6]
- Type of topic construction: *based generated topic*[7]
- Nonmanual topic marker: *optionally followed by a blink, change of eye gaze, head/body position*
- Function of the topic-marked constituent: *the topic is a recently evoked entity and represents what the sentence is about*

hn

(10) DOG CAT CHASE
'It's the dog that chases the cat.' (BSL, Sutton-Spence & Woll 1999: 60)
- Type of topic construction: *object*[8]
- Nonmanual topic marker: *accompanied with a head nod*
- Function of the topic-marked constituent: *what the sentence is about*

At least three findings can be deduced from the examples above. First, sign languages vary in terms of which nonmanuals mark topics, e.g., brow raise marks topics in ASL but not in ISL and BSL. Second, there is a need to separate different

6. This example is quoted from a manuscript of Rosenstein's MA thesis which does not contain page numbers.

7. Rosenstein (2001) argues that all the topic examples in her data are not derived from movements, even if they happen to be coreferential with the grammatical objects.

8. Sutton-Spence and Woll (1999) have not stated clearly whether DOG is preposed or not.

sub-types of topics in the investigation of nonmanual markers, e.g., Aarons (1996) observes that moved topics and base-generated topics are marked by nonmanual features in ASL. Third, when researchers use the term 'topic', they may not have the same types of syntactic constructions in mind; even if the same syntactic constructions are referred to, they may actually serve different functions. Liddell (1980), Padden (1988), and Aarons (1996) all cited preposed grammatical objects in their discussions of the nonmanual topic-markers in ASL (as in example (5), (6), and (7) above), but the topic-marked elements do not serve the same discourse functions. Assuming that all researchers are correct in their analyses, brow raise in ASL can either topicalize or focalize an NP. In other words, we are dealing with two to three distinct functions all of which are expressed by the same nonmanual marker.[9] Given these observed differences as well as the well-known fact that the notion of 'topic' is obscured by terminological confusions and controversies in the spoken language literature, readers need to be cautious when interpreting the findings in the sign language literature.

To give readers a general idea of how diverse studies of topic constructions in sign languages are with respect to the structures, functions, and nonmanual markings, three separate tables that summarize the findings of these studies are provided below.

As shown in Table 1, some researchers, such as Liddell (1980) and Padden (1988), mainly focus on preposed constituents in the sentence-initial position (Type I).[10] A few researchers, like McIntire (1980) and Rosenstein (2001), only look at non-fronted, sentence-initial topic constituents (Type II). Some works include both fronted and non-fronted sentence-initial topic constructions (Type I and II) (e.g., Baker & Cokely 1980; Sutton-Spence & Woll 1999). A few researchers also include non-fronted, non-sentence-initial topics apart from the sentence-initial ones (Type I, II and III) (e.g., Coerts 1992; Janzen 1995, 1997, 1999).[11]

Table 2 shows the functions served by different types of topic-related constructions across studies. These functions include the categories focus/emphasis, discourse-new information, discourse-old information, what the sentence is

9. It is not clear whether Padden's (1988) 'focus' corresponds to Aarons´ (1996) 'contrastive focus'. If not, brow raise serves three distinct functions in ASL.

10. In Johnston and Schembri (2007), no movement analysis is assumed for the sentence-initial grammatical objects that are nonmanually marked as topics (Johnston and Schembri, p.c.).

11. The two studies cited here appear to make use of the availability of nonmanuals to determine whether a non-sentence-initial constituent is a topic. As I have pointed out in the literature review, due to the optionality and ambiguity associated with topic markings, this methodology runs the potential risk of including constituents that are not topics and excluding real topics are not marked nonmanually.

Table 1. Types of constituents referred to by 'topic/topicalization' across different studies of sign languages

		Type I. Fronted constituents/ sentence-initial, clause-external objects	**Type II.** Non-fronted sentence-initial, clause external constituents (hanging, base-generated topic/adverbials)	**Type III.** Non-fronted, non-sentence-initial constituents
ASL	Fischer (1974, 1975), Liddell (1980), Padden (1988), Valli & Lucas (2000)	✓		
	McIntire (1980)		✓	
	Baker & Cokely (1980)	✓	✓	
	Aarons (1996)	✓ (tm1)	✓ (tm 2/3)	
	Janzen (1995, 1997, 1999)	✓	✓	✓
Other SLs	ISL: Rosenstein (2001)		✓	
	Auslan: Johnston & Schembri (2007)	✓	✓	
	BSL: Sutton-Spence & Woll (1999)	✓	✓	
	SLN: Coerts (1992)	✓	✓	✓

about, setting the scene, important/prominent information, and change/introduce a new discourse topic. Once again the findings are quite diverse. For example, both Baker & Cokely (1980) and Aarons (1996) include syntactic constructions of Type I and II in their studies, but only one of the functions they report is the same (i.e., what the sentence is about).

Table 3 shows the types of markers for topics across different sign languages and studies. Brow raise and backward head tilt are by far the most frequently reported nonmanuals, followed by pausing and lengthening. Other less frequently reported nonmanuals include eyes opened wide, head nod, gaze at addressee, and so on.

In brief, the findings concerning the markings for topics across sign languages are reminiscent of some of the controversies discussed in the spoken language literature. What we learn from the literature is that when investigating the topic constructions and their markings in any language, we should not assume that certain syntactic constituents necessarily mark topics. Furthermore, we should be aware

Table 2. Types of topic-related constructions and their functions across different studies of sign languages

	focus / emphasis	discourse-old info.	what the sentence is about	setting the scene / framework	important / prominent info.	discourse-new info.	change / introduce a new discourse topic
Coulter (1979), Padden (1988), Isenhath 1990 (Type I)	✓						
Liddell (1980) (Type I)		✓	✓				
McIntire (1980) (Type II)		✓	✓	✓			
Baker and Cokely (1980) (Type I/ II)			✓	✓			
Aarons (1996) (Type I/ II)	✓ tm1	✓ tm3	✓ tm2			✓ tm1, tm2	✓ tm2, tm3
Janzen (1995, 1997, 1999) (Type I/ II /III)		✓	✓	✓			
Rosenstein (2001) (Type II)		✓	✓	✓			✓
Johnston and Schembri (2007) (Type I/II)		✓	✓		✓	✓	
Sutton-Spence & Woll (1999) (Type I/II)	✓	✓	✓	✓			
Coerts (1992) (Type I/II /III)		✓				✓	✓

that a formal marker that characteristically accompanies topic constituents may serve other functions, e.g., focus/emphasis. Given these considerations, semantic/pragmatic factors and discourse content should play an important role in the identification of topic constituents in language data.

4. Definitions of topic adopted in this study

It has been shown in Section 2 that syntactic structures such as left-dislocations and topicalizations may not necessarily represent topics and that topics do not always come first in sentences. These two concerns motivate my decision not to adopt any theories which define topics narrowly as the sentence-initial constituents, e.g., Theme/Rheme dichotomy by Halliday (1967) and the Link-Tail-Focus Theory by Vallduví (1992). In light of the optional nature and ambiguity associated with formal topic markings, this study adopts a theoretical framework that emphasizes discourse contexts and provides guidelines for identifying topics in discourse data on semantic/pragmatic criteria. Following Jacobs (2001), in this study I assume that topics fall into two distinct types: 'aboutness' topics and 'scene-setting' topics.[12] An 'aboutness' topic represents what the sentence is about (Reinhart 1981; Gundel 1985; 1988a, 1988b). An expression will be understood as an 'aboutness' topic if the assertion in the sentence is intended to expand the listener's knowledge of it (Reinhart 1981:59). It can be conceptualized as a constructive means a language employs to signal the listener how to classify new incoming propositions to construct the context set of a discourse. An 'aboutness' topic represents information which is either familiar to both interlocutors, or identifiable to the addressee given the context (Gundel 1988b).[13] According to Reinhart and Gundel, the topic of a sentence is by default the grammatical subject, but it may

12. In Jacobs' (2001) terminology, 'aboutness' topics and 'scene-setting' topics are known as 'addressation' and 'frame-setting' topics respectively.

13. As mentioned in Section 2, Reinhart (1981:78) argues that old information is neither a sufficient nor necessary condition for a topic and that topics only need to be referential. Her justification is solely based on examples of left dislocations in English that involve indefinite NPs. However, I agree with Gundel's criticism that Reinhart's referentiality requirement is too weak to capture the general observation that topic expressions are definite. Note further that whether left dislocations in English truly represent topics remains controversial (see Prince 1981, 1997, 1998, 1999). If it turns out that left dislocation does not serve the purpose of marking a topic, Reinhart's justification of lowering the pragmatic requirement to referentiality will no longer hold.

Table 3. Types of topic markings across different studies of sign languages

	brow raise	back ward head tilt	gaze at addressee	eyes opened wide	lengthening of last sign	followed by pause	head nod	Others
ASL								
Liddell (1980) (Type I)	✓	✓			✓			
Padden (1988) (Type I)	✓							
Valli and Lucas (2000) (Type I)	✓	✓				✓		
Aarons (1996) tm 1 (Type I)	✓	✓		✓				Sideward head tilt; down and forward head movement
Aarons (1996) tm 2 (Type II)				✓				Large movement of head back and to the side; head moves down and forward
Aarons (1996) tm 3 (Type II)	✓		✓			✓	✓	Head is down at a slightly forward angle and jerked up and down; upper lip is raised; mouth is open widely
McIntire (1980) (Type II)	✓		✓		✓		✓	Pronominalization, repetition of nominals

Table 3. (continued)

	brow raise	back ward head tilt	gaze at addressee	eyes opened wide	lengthening of last sign	followed by pause	head nod	Others
Baker and Cokely (1980) (Type I/II)	✓	✓	✓		✓	✓		Followed by a sharp change in head position, brows and gaze directions.
Janzen (1995, 1997, 1999) (all 3 types)	✓	✓			✓	✓		
Other sign languages								
Rosenstein (2001) (Type II)								Optionally followed by a blink, change head and/or body position
Johnston/ Schembri (2007) (Type I/II)	✓	✓				✓		A change in nonmanuals in the comment part
Sutton-Spence &Woll (1999) (Type I+II)				✓		✓	✓	
Coerts (1992) (all 3 types)	✓							

also appear in other syntactic positions depending on the context, as in the following example (11).[14]

(11) Felix is an obnoxious guy. Even Matilda can't stand *him*. (Reinhart 1981: 63)

The above sentences are clearly about Felix, who is coded as the subject and the object in the first and second sentence respectively. Unlike Reinhart and Gundel, however, I will not assume that structures like left dislocation and topicalization necessarily mark a topic position, unless there is strong contextual evidence suggesting that this is really the case.

As for the identification of topic constituents in the discourse data, Reinhart (1981) proposes a set of practical procedures that have taken well into account the ongoing discourse, definiteness of topics and the crosslinguistic preference for subjects being topics. This set of procedures will be adopted in this study for identifying 'aboutness' topics in the HKSL data. A more detailed description will be given in Section (5).

Unlike 'aboutness' topics, a 'scene-setting' topic provides a spatial, temporal or individual framework within which the main predication holds (Chafe 1976).[15] Being clause-external, 'scene-setting' topics include what Chafe calls Chinese-style topics and certain adverbial phrases which are often found in the sentence-initial position across languages (Jacobs 2001).[16] The concept of 'scene-setting' topic is further extended by Lambrecht (1994) to include fronted subordinate clauses such as temporal and locative adverbial clauses. He argues that these background-establishing clauses contain presupposed information, and, similar to Chinese-style topics, they serve the function of setting up the scene for the proposition of the main clause. In the following two sentences, the 'scene-setting' topics are underlined:

14. A similar view is also expressed in Lambrecht (1994: 136), who suggests that "across languages the subject of a sentence will be interpreted as its topic and the predicate a comment about this topic unless the sentence contains morphosyntactic, prosodic, or semantic clues to the contrary".

15. According to Jacobs (2001), one key difference between a 'scene-setting' topic and an 'aboutness' topic lies in their relation to the predication in the comment part of the sentence. An 'aboutness' topic only identifies the referent with which the incoming proposition should be anchored in the discourse and as such has no direct effect on the truth of the comment. For a sentence with a 'scene-setting' topic, however, the comment holds only within the domain described by the topic.

16. There has been a controversy over the topic status of sentence-initial temporal or locative expressions in the literature. Due to the fact that these expressions are marked overtly as topics in languages with overt morphological topic markers, Jacobs (2001) strongly argues for their topic status.

(12) *In meinem Traum war Peter ein Krokodil.*
'In my dream, Peter was a crocodile.' (Jacobs 2001: 657, English translation F.S.)

(13) (John was very busy that morning.) After the children went to school, he had to clean the house and go shopping for the party. (Lambrecht 1994: 121)

In example (12), the proposition *Peter was a crocodile* only holds in the domain defined by the 'scene-setting' prepositional phrase *in my dream*. In example (13), *John* is what the sentence is about; hence the linguistic expressions *John* and *he* are the 'aboutness' topics. The adverbial clause *After the children went to school* represents presupposed information that serves as a temporal framework for the proposition in the main clause.[17]

A 'scene-setting' topic can co-exist with an 'aboutness' topic in a single sentence, or sometimes they may coincide (Jacobs 2001).[18] Both 'aboutness' topics and 'scene-setting' topics, together with preposed grammatical objects, will be the target structures under investigation in this study.

5. Methodology

5.1 Data collection and transcription

The data of this study came from two male and two female native signers of HKSL, all of them in their twenties.[19] Two types of data were collected: elicited monologues and spontaneous conversations. The monologue data set consisted of 5 elicited narratives and 5 answers to questions. For the narratives, 5 sets of pictures were shown to the signers.[20] Each of the signers was asked to sign out the story to

17. In spoken languages, temporal frames may be introduced by adverbial expressions such as *today*, subordinate clauses such as *when he left*, or prepositional phrases (Le Draoulec & Péry-Woodley 2001).

18. Jacobs (2001: 662–663) argues that a 'scene-setting' topic and an 'aboutness' topic can sometimes coincide. *In meinem TRAUM* in example (12) serves a scene-setting function and also intuitively refers to a mental file, namely the file containing the speaker-addressee knowledge about what happened in the dream of the speaker. Hence, it is also an 'aboutness' topic.

19. The deaf signers graduated from the same deaf day-school. All of them have deaf parents, and two of them have a deaf elder sister who also signs at home. They have been using HKSL as the preferred means of communication since birth.

20. The picture stories were chosen from Heaton (1966).

Figure 1. A sample of a picture story for eliciting narrative data

another deaf signer who sat next to the video camera. Figure 1 shows the pictures of one of the five stories.

In addition, five questions were used to elicit monologue data. The signers were asked to tell their answers to another deaf signer who sat next to the video camera. The questions were:

1. How can a deaf person apply for deafness allowance in Hong Kong?
2. What can a deaf person do if his/her hearing aid is broken?
3. What do you think of the sign language interpreting service in Hong Kong?
4. Do you participate in the activities at the deaf associations in Hong Kong?
5. What problems are faced by the deaf in Hong Kong and what do you hope the government to do in order to improve their situation?

As for the conversation data, the four signers were paired up and asked to converse freely with each other for one hour. The two signers of each pair were instructed to sit apart, facing each other directly. Two cameras were placed between the signers, each shooting the front view of one individual signer as shown in Figure 2. The cameras were placed at such a height that they did not block the signers' view of their conversation partner. The distance between the two deaf participants was adjusted to ensure that both could see and sign to each other comfortably without the need to exaggerate their signing.

The two video clips were later combined and synchronized with the images of the two signing participants placed side by side, as shown in Figure 3 below.

Altogether 39 minutes of picture-elicited narratives, 51 minutes of answers to questions, as well as 1 hour 56 minutes of paired conversations were collected. The

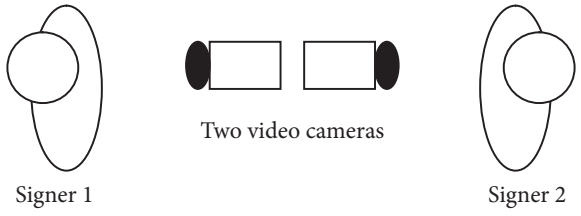

Figure 2. Sitting and videotaping arrangement for signing conversation

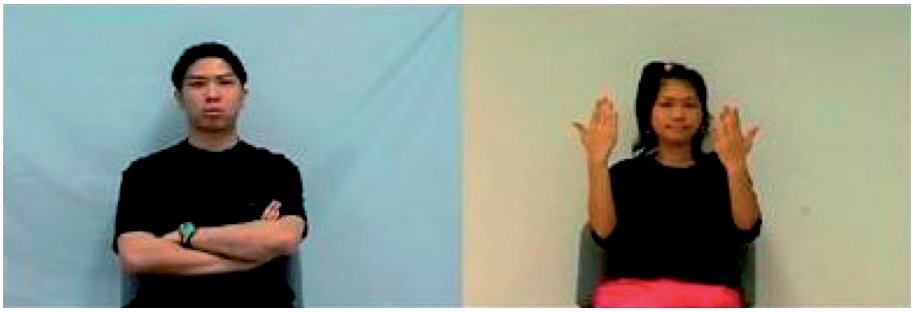

Figure 3. Video sample of the synchronized HKSL conversation data

data were transcribed by the author of this study using ELAN and were checked by the four deaf signers. Sentence-delimitations were done by the four signing informants.[21]

5.2 Identification and coding of topics in the data

This study adopts Reinhart's (1981) procedure of identifying 'aboutness' topics with minor modifications. Reinhart's procedure is based on the assumption that adjacent sentences in a discourse can be connected by two types of link. The first

21. Delimiting sentences in sign language data has always been a thorny issue. Various attempts have been made by sign linguistics to look for possible correlations between nonmanuals and sentence boundaries, and some useful cues have been identified. Yet none of them are conclusive enough for determining sentence boundaries (see the works by Grosjean & Lane 1977; Baker & Padden 1978; Wilbur 1994; Sandler 1999; Sze 2008a; Johnston & Schembri 2006; Hansen & Hessmann 2006). Given this background, it was decided in this study that native intuition should be tapped in deciding where the sentence boundaries lie. The native signers were asked to divide up the streams of signs into 'sentences', but no explicit explanation of what a sentence actually means was offered to them. Basically, the native signers make use of phonological, syntactic, and semantic clues to demarcate the 'sentence units'. Generally speaking, major prosodic breaks (lengthy pauses or a clear change of head position or facial expressions) are always interpreted as 'boundaries', unless the breaks result from hesitation. If a long sequence of signs falls within a single prosodic contour with no intervening pauses or a marked change of nonmanual features, it may be further divided into smaller chunks, each with its own completed meaning. These smaller chunks (i.e., sentence units) conform to the general observation that wh-word, negator, y/n question particles and modals appear sentence-finally in HKSL. These sentence units may comprise one or more clauses. In the case of a multi-clausal combination, the clauses may share the same subject (overt or covert), or require different subjects. Since the native signers group these clauses into one 'sentence unit', I treat them as coordinating or subordinating structures. Note also that the four signing informants never separate clauses which bear an apparent subordination relationship (e.g., cause and effect) and never separate arguments from their corresponding predicates. For a more in-depth review of the discussions on sentence delimitation in spoken and sign language literature, see Sze (2008b).

one is a 'referential link': two adjacent sentences are considered referentially linked if the two sentences contain the same referent, or there are set-membership relations between the referents of the two sentences, or the referent mentioned in the second sentence belongs to the frame of reference established in the first. The second link is a 'semantic link' between the propositions expressed by the two sentences: two sentences can be appropriately linked by an overt, or easily recoverable semantic connector. In the following example (14) provided by Reinhart (1981:75), there is no referential link between any of the expressions of the sentences. However, *at the same moment* is a semantic connector that establishes a semantic relation between the propositions expressed in these sentences:

(14) 'Ready? Well: when I reentered my office the clock in the tower of the Municipal Building was just striking two, and as if by a prearranged signal, *at the same moment* the raucous voice of a stream calliope came whistling in off the river: 'Adam's Original & Unparalleled Floating Opera', one could guess, has just passed Hambrooks Bar Light.' (Reinhart 1981:75)

The existence of a semantic connector typically indicates a turn in the discourse content, paving the way for the introduction of a new topic. In such a case, the sentence topic after the semantic operator may not be referentially linked to the preceding discourse. Reinhart (1981) suggests the following procedure for identifying 'aboutness' topics in a discourse:

1. First, select an NP whose referent is already in the context set (i.e., NP mentioned in previous discourse) unless:
   a. the sentence is linked to the previous sentence by a semantic connector.
   b. the sentence starts a new segment of the context set (i.e., the sentence begins with an entirely new discourse topic irrelevant to the previous context set).

   In both situations (a) and (b), a new/shifted 'aboutness' topic is expected. In this case, the topic will be any definite NP which represents an entity familiar as well as identifiable to the listener/addressee. This NP does not need to be referentially linked to the previous discourse.
2. If (1.) is met, the subject representing old information will be the topic. However, if the subject represents new information but a non-subject NP represents old information then the non-subject NP will be selected as the topic.

On the basis of Reinhart's (1981) suggested procedure, the following steps were taken to identify 'aboutness' and 'scene-setting' topics in this study:

1. In the beginning of a new discourse segment, if there is a clause-external definite NP (i.e., representing old or mediated information) which represents

what the sentence is about and if it is also what the next sentence is about, that definite NP will be marked as an 'aboutness' topic. If there is no clause-external topic and if the subject is definite, the subject will be marked as the topic. If the sentence introduces a new referent into the discourse without mentioning any definite NP, the sentence is regarded as presentational and there is no 'aboutness' topic. Sentence-initial temporal phrases, locative adverbials and subordinate clauses are all coded as 'scene-setting' topics, unless these constituents also represent what the sentence is about. In such a case, the adverbials are coded as 'aboutness' topics.

2. For other non-discourse-initial sentences, the topic will be a definite NP which is referentially linked to the previous sentences. If there are two such NPs, the one occupying the subject position will be chosen as the topic.[22] Non-subject definite NPs will only be selected as the topic if the subject does not represent familiar or identifiable information.
3. Like other sign languages, HKSL allows null arguments if the referents are recoverable from the context or verb agreement markings. Taking this into consideration, the topic NPs stated in step 2 can be either null or overt.
4. Fronted grammatical objects that also represent 'aboutness' topics and those that do not are coded separately in the data.
5. Following Lambrecht (1994), certain types of sentences are assumed to be topicless. They are identificational, presentational, and event-reporting sentences.[23]

22. It is not the case that the definite subject of a matrix clause is always selected as the topic in this study. Erteschik-Shir (1997: 13) argues that in the sentence *I think that John FELL ASLEEP*, only the subordinate clause is included in the topic-focus analysis. Here *John* represents the topic and *fell asleep* represents the focus. The matrix clause is used merely to qualify the assertion. Following Erteschik-Shir's suggestion, in my data all sentences involving THINK, TELL, FEEL, GET-SIGHT-OF, and SEE are examined with care to see whether it is the matrix or the embedded subject that is representing the topic. If the preceding and/or ensuing discourse is about the referent encoded by the embedded subject, then the embedded subject is treated as the topic. However, if the context is clearly about the referent encoded by the matrix subject, then the matrix subject is selected as the topic.

23. Identificational sentences serve to identify a referent as the missing argument. For example, *The CHILDREN went to school* does not contain any topic if it is an answer to the question *Who went to school?* (Lambrecht 1994: 121). In event-reporting sentences, the assertion expresses a proposition which is linked neither to an already established topic nor to a presupposed open proposition. *The CHILDREN went to SCHOOL* is a topicless, event-reporting sentence if it answers the question *What happened?* (Lambrecht 1994: 121). Presentational sentences are those intended to introduce not-yet activated referents into a discourse. The referent introduced by a presentational sentence is encoded as an indefinite NP and cannot serve as a topic. The English

6. In HKSL, short answers to wh-questions usually do not include any topic expressions because they contain just the focused information elicited by the questions.
7. Incomplete utterances due to hesitation, self-correction or interruption from the conversation partner are all excluded from the analysis.

Once a topic was identified, its discourse and information status was coded. Discourse status refers to whether the topic is shifted or continued. Information status refers to whether the information encoded by the topic expression is known to the addressee. Three labels were used: old, new, and mediated. A topic is thought to contain mediated information if it is generally known to the addressee or can be inferred by the addressee from the prior context. NPs containing old or mediated information were regarded as definite.

5.3 Types of features coded and measured in the data

Since brow raise, specific head positions (e.g., head tilt backward or sideway), and intonation breaks are frequently reported in topic constructions across sign languages, I decided to focus on these three types of features in my analysis. For intonational breaks, I used three measurements: a blink, a noticeable pause, and the lengthening of the last sign.

6. Results

6.1 'Aboutness' topics in the HKSL data

In the data, 2346 tokens of overt 'aboutness' topics were coded. As shown below in Table 4, 'aboutness' topics can be realized either within the main clause, as subjects or in-situ objects, or external to the main clause, as hanging topics, left dislocations or preposed grammatical objects. As expected, the vast majority of 'aboutness' topics are grammatical subjects within the main clause. As all of these 'aboutness' topic NPs are definite and are mostly fully activated in the discourse, they are usually pronominals or NPs involving a pointing sign as a determiner.[24]

'existential' *there*-sentences as in *Once upon a time there was a handsome prince* are typical examples of presentational sentences.

24. Around 19% of the 'aboutness' topics involve right-dislocated, sentence-final pronouns. These sentence-final pronouns are excluded from the discussion of nonmanual topic markers here unless they have an NP antecedent being a sentence-initial hanging topic, dislocation or

Table 4. Syntactic constituents that encode 'aboutness' topics in HKSL

Types of syntactic constituents		No. of tokens (%)
Within the main clause	Grammatical subjects	2142 (81%)
	In-situ grammatical objects	40 (1.7%)
External to the main clause	Hanging topics	104 (4.4%)
	Left dislocations	19 (0.8%)
	Sentence-initial grammatical objects	41 (1.7%)
		(OSV: 24, 1%)
Subtotal:		2346

Although topical subjects are less likely to be marked overtly by morphological markers in spoken and sign languages when compared to clause-external topic constituents, I have examined a small subset of the overt topical subjects in the conversation data to see if there are any consistent nonmanual markings. A total number of 141 overt subjects that serve as 'aboutness' topics in the first 10 minutes of one conversation data set were identified for this purpose.[25] Among the sentence-initial grammatical objects, I will only look at those tokens in which an explicit subject is also present (i.e., OSV, 24 tokens).[26]

Table 5 shows the nonmanual features accompanying the 'aboutness' topics and the intonational breaks following the 'aboutness' topics.

The figures show that brow raise and specific head position are observed in a very small number of topical subjects, hanging topics, left dislocations, and fronted grammatical objects. In addition, none of these four categories of 'aboutness' topics is consistently followed by an intonational break. Fronted object topics followed by a blink have the highest frequency of occurrence, but the percentage

a fronted topical grammatical object. For a detailed discussion of right dislocation, readers can refer to Sze (2008b).

25. The findings concerning the topic subjects, however, must only be interpreted together with those of the clause-external topic constituents. If we can find consistent topic marking for clause-external topics, then one may hypothesize that overt subjects with similar markings are topicalized. However, if no consistent topic marking can be identified for clause-external topics, then the infrequent occurrence of nonmanuals with the overt subjects are likely to be caused by other factors unrelated to the topic status of the subjects.

26. Although SVO is the most frequently attested word order pattern across all verb types in HKSL, SOV sequences are allowed under certain conditions (Sze 2003; Sze 2008b). Since HKSL is a pro-drop language, it is difficult to determine if an OV sequence on the surface results from the fronting of a grammatical object or the omission of S from an original SOV structure. Hence, only OSV sequences are considered in the analysis here.

Table 5. Nonmanual features and intonational breaks associated with 'aboutness' topics in HKSL

Types of nonmanuals		Hanging topics (104)	Left dislocated constituents (19)	Fronted objects as topics (24)	Subjects (141)
1. Brow raise		4 (3.9%)	1 (5.3%)	3 (12.5%)	3 (2.1%)
2. Specific head position		9 (8.7%)	1 (5.3%)	6 (25%)	25 (17.7%)
3. Intonational break following the topic constituent	**Followed by a blink**	19 (18.3%)	2 (10.5%)	10 (41.7%)	16 (11.3%)
	Noticeable pause (0.3 sec or longer)[27]	14 (13.5%)	4 (21.1%)	3 (12.5%)	5 (3.5%)
	Lengthening of the last sign (3 video frames/0.12 sec or longer)[28]	16 (15.4%)	4 (21.1%)	3 (12.5%)	6 (4.3%)

is still lower than 50%. Given the fact that blinks may occur at a wide range of grammatical boundaries in HKSL (Sze 2008a), the percentage of blinks here is not high enough to claim the status of a topic marker. On the basis of the above figures, I suggest that 'aboutness' topics in HKSL are not consistently accompanied by nonmanual features, nor are they necessarily separated intonationally from the rest of the sentence. Three examples of 'aboutness' topics are provided in (15) to (17) as illustrations (also see the accompanying video clips).

(15) Hanging 'aboutness' topic: the last sign of the topic is held for 3 frames
[IX$_{\text{deaf-allowance}}$ DEAF DEAF-ALLOWANCE IX$_{\text{deaf-allowance}}$]
MONEY (hesitation) MONEY EVERY-MONTH HAVE
'About the deaf allowance, (I) get the money every month.'

(16) Left dislocated 'aboutness' topic: no specific nonmanual marking
IX$_{\text{Kenny}}$ ALL (SAY) IX$_{\text{Kenny}}$ STRONG.
'He (Kenny), all of them (say) he is strong.'

27. No quantified definition of a 'pause' can be found in the sign language literature. In my data, a transition between two signs would begin to look like a pause if its duration reaches 0.3 sec or above. Hence, 0.3 sec is chosen as the baseline. Any transition with a duration equal to or longer than 0.3 sec would be marked as a noticeable pause. Note that in the data transcription, the beginning of a sign is the moment when the handshape is clearly reached and its end is the moment when the handshape begins to lax. Hence, a pause between two signs can be viewed as the duration from the moment the handshape begins to lax to the moment the next handshape is clearly seen.

28. In the current data set, a sign begins to look lengthened if it is held in space for three video frames. Hence, it is decided that the last sign of a topic expression is considered lengthened if it is held in space for 3 frames or more upon the completion of movement (3 frames = 0.12 sec).

(17) Fronted object as 'aboutness' topic: no particular nonmanuals
INTERPRETER^SIGN-LANGUAGE GOVERNMENT PAY-THEM NOT-HAVE
'The sign language interpreters, the government does not pay (them).'[29]

If 'aboutness' topics are not marked nonmanually or intonationally in HKSL, how can we explain the small number of 'aboutness' topics that are indeed marked by brow raise, the most frequently reported topic-marker in other sign languages?

Among these tokens of brow raise, two of them involve NPs that consist of several signs and the referents represent identifiable but not fully activated information. It is likely that the signers were actually using brow raise to draw the addressee's attention to a new, shifted topic which was identifiable but the addressee had not recognized at the moment the sentence was uttered. Eight tokens of brow raise involve contrastive contexts (e.g., overt comparison of two entities or singling out one member from a set). In other words, instead of being a marker for 'aboutness' topic per se, brow raise in HKSL probably marks emphasis or contrastive focus, as Padden (1988) and Aarons (1996) suggest for ASL. The issue of brow raise marking focus or contrast will be taken up again in Section 7.

6.2 'Scene-setting' topics in the HKSL data

In the HKSL data, 217 tokens of 'scene-setting' topics were coded. They fall into four types: conventional temporal adverbials, NPs that set up temporal domains, subordinate clauses that set up temporal domains, and locative expressions. Most of the 'scene-setting' topics are sentence-initial, but some may appear after an 'aboutness' topic/a subject (i.e., non-sentence-initial 'scene-setting' topics). Unlike 'aboutness' topics, 'scene-setting' topics can be discourse-new or discourse-old information. Typically, they are full NPs and are usually not referred to again in subsequent discourse. Table 6 displays the types of 'scene-setting' topics and some examples.

Table 7 shows the nonmanuals that accompany the 'scene-setting' topics and the intonational breaks that follow the 'scene-setting' topics (I = sentence-initial position, NI = non-sentence-initial position, ST = subtotal).

As shown in Table 7, over three quarters of the NPs that set up temporal domains (78%), locative expressions (80%), and subordinate adverbial clauses (75%) are accompanied by a brow raise. Quite a high percentage of the 'scene-setting' topics are also accompanied by a specific head position which is different from the rest of the sentence. Around 60% of the NPs that set up temporal domains,

29. In this example, there is a fairly lengthy pause after the fronted topic object but it is unclear whether this is a pause for marking the fronting or it results from hesitation as indicated by the false start of PAY-THEM before GOVERNMENT.

Table 6. Types of 'scene-setting' topics and examples in the HKSL data

Types of scene-setting topics	Initial / non-initial	No. of tokens
1. Conventional temporal adverbials e.g. PAST, NOW, MONDAY, MORNING	Sentence-initial: 82 Non-sentence-initial: 34	116
2. NPs that set up temporal domains e.g. SECONDARY-ONE: when I studied secondary one (=grade 7) e.g. FIRST-ROUND: in the first round of the competition e.g. ONE-SEMESTER: in one semester	Sentence-initial: 15 Non- sentence-initial: 3	18
3. Subordinate clauses that set up a temporal domain e.g. GET-MARRIED FINISH, SIMPLE-MINDED DON'T 'After getting married, (one) shouldn't ignore (one's appearance).'	Sentence-initial: 71 Non- sentence-initial: 2	73
4. Locative expressions e.g. HILL IX$_{up}$ HAVE THREE 'On the hill were three (persons).'	Sentence-initial: 9 Non sentence-initial: 1	10
Subtotal:		217

Table 7. Nonmanual features and intonational breaks associated with 'scene-setting' topics in HKSL

	Conventional temporal adverbials (116)			**NPs that set up temporal domains (18)**			**Subordinate clauses that set up temporal domains (73)**			**Locative expressions (10)**		
	I (82)	**NI (34)**	**ST**	**I (15)**	**NI (3)**	**ST**	**I (71)**	**NI (2)**	**ST**	**I (9)**	**NI (1)**	**ST**
1. Brow raise	32	8	40	11	3	14	54	1	55	8	0	8
	39%	24%	**34%**	73%	100%	**78%**	76%	50%	**75%**	89%	0%	**80%**
2. Specific head position	27	9	36	8	3	11	51	1	53	5	1	6
	33%	26%	**31%**	53%	100%	**61%**	72%	50%	**73%**	56%	100%	**60%**
3. Intonational break												
Blink	31	3	34	8	1	9	38	2	40	7	0	7
	38%	9%	29%	53%	33%	50%	54%	100%	55%	78%	0%	70%
Pause	11	0	11	4	1	5	12	0	12	5	0	5
	13%	0%	9%	27%	33%	28%	17%	0%	16%	56%	0%	50%
Lengthening of the last sign	16	0	16	8	1	9	23	1	24	2	0	2
	20%	0%	14%	53%	33%	50%	32%	50%	33%	22%	0%	20%

73% of subordinate adverbials clauses, and 60% of locative expressions are marked with a specific head position. On a closer look, nearly 80% of these specific head positions involve a forward head tilt plus the body leaning forward. Other possible head positions include head tilting backward (9 tokens), a head nod (6 tokens), head tilting sideward (1 token), face turning sideward (2 tokens), and a neutral head position that is changed after the 'scene-setting' topic (4 tokens). Markers of intonational breaks, such as the lengthening of the last sign of a topic constituent, the presence of a blink or a pause after a topic, are much less prevalent.

It is obvious from the data that brow raise and specific head positions are the primary nonmanual indicators of 'scene-setting' topics in HKSL. Note that these two nonmanuals do not always co-occur; rather, they can be used independently to mark 'scene-setting' topics, as is shown Table 8 below:

Table 8. Occurrences of brow raise and specific head positions in 'scene-setting' topics in HKSL

Types of nonmanuals	**Conventional temporal adverbials (116)**	**NPs that set up temporal domains (18)**	**Subordinate clauses that set up temporal domains (73)**	**Locative expressions (10)**
Specific head position only	10 (8.6%)	0 (0%)	7 (9.6%)	2 (20%)
Specific head position + brow raise	26 (22.4%)	11 (61.1%)	45 (61.6%)	8 (80%)
Brow raise only	16 (13.8%)	3 (16.7%)	12 (16.4%)	0 (0%)
Subtotal:	52 **(44.8%)**	14 **(77.8%)**	64 **(87.7%)**	10 **(100%)**
NO specific head position & NO brow raise	64 (55.2%)	4 (22%)	9 (12.3%)	0 (0%)

We can also see from Table 8 that except for conventional temporal adverbials, a very high percentage of the 'scene-setting' topics are marked nonmanually by either a specific head position or brow raise, or both at the same time. Some instances of 'scene-setting' topics that are marked nonmanually in the HKSL data are provided in examples (18)–(21) below.

(18) A conventional temporal adverbial: forward head tilt + brow raise
NEXT SATURDAY $IX_{group\text{-}B}$ OTHER B $IX_{group\text{-}B}$
'Next Saturday, group B (had the competitions).'

(19) An NP that sets up a temporal domain: forward head tilt + brow raise
SECONDARY-TWO, START PLAY-BASKETBALL,
HAVE-COMPETITION, FARE-BETTER-THAN
'At secondary two (=grade8), I started playing basketball and had competitions; I was better than (other senior schoolmates).'

(20) A subordinate clause that sets up a temporal domain: backward head tilt + brow raise
IX_1 SECONDARY-FIVE GRADUATE IX_1 FINISH, gesture
CL-a-big-pile-of-books BOOK gesture DICTIONARY MANY ENGLISH DICTIONARY gesture IX_1 MANY CL -a-big-pile-of-books gesture
'After I graduated from secondary-five (=grade 11), I had a big pile of used books such as English books and dictionary; I didn't know what to do with them.'

(21) A locative expression: forward head tilt + brow raise
IX_{here} HAVE TWO, FATHER IX_{father} OLD YOUNG NOT OLD,
IX_{boy} BOY
'In this place, there are two persons: a father, who is quite old/not young, and a boy.'

Based on these data, I would like to argue that 'scene-setting' topics in HKSL are primarily marked with a brow raise and a specific head position — a forward head tilt in the majority of cases. Though optional, these nonmanual markers are frequently used. Note also that both sentence-initial and non-sentence-initial 'scene-setting' topics may be marked by a brow raise and/or specific head position. This suggests that these two nonmanuals are likely to serve as pragmatic function markers rather than tied to a particular syntactic position.

Recall that a significant proportion of conventional temporal adverbials are not marked with a brow raise or specific head position in the HKSL data. One possible explanation is that not all temporal adverbials serve a scene-setting function. In English, adverbials may occur in various syntactic positions in a sentence, and there is a functional contrast between the initial and final position: initial adverbs are adjuncts that have a scene-setting function outside the proposition, whereas the final adverbials have no autonomy and express a circumstance only modifying the proposition (Le Draoulec & Péry-Woodley 2001). It is possible that this functional difference is not expressed syntactically in HKSL but it hinges upon the presence of nonmanual features, i.e., a temporal adverbial serves a 'scene-setting' topic only if it is marked by a brow raise or a specific head position. Whether this is a correct assumption or not requires further research.

6.3 Fronted grammatical objects in the HKSL data

As mentioned earlier in Section 6.1, in HKSL a grammatical object may be fronted to the sentence-initial position if it is an 'aboutness' topic. We have already seen that there are no consistent nonmanual markings and intonational breaks for 'aboutness' topics in general. In the HKSL data, there are 59 tokens of fronted grammatical objects that do not serve the function of an 'aboutness' topic. They fall into four major types, which I believe represent the discourse or grammatical environments in which object preposing is permissible in HKSL. These four circumstances are listed as follows:

1. the object referent is fairly salient in discourse and is spatially modified (i.e., being a pronominal or involves a pointing determiner) (7 tokens);
2. the object is contrastive (6 tokens);
3. the object is a part of the proposition being negated in the sentence (4 tokens);
4. the sentence involves a plain verb that favors verb-final constructions in general (44 tokens).

The nonmanual features that accompany the fronted objects and the intonational breaks that follow the fronted objects are listed in Table 9 below.

Table 9. Nonmanual features and intonational breaks associated with fronted non-topic grammatical objects in HKSL

		Fronted non-topic grammatical objects: 59			
		Salient referents with spatial markings (5)	**Involve plain verbs that favor verb-final constructions (44)**	**Involve contrastive context (6)**	**Involve negation/ negative modal (4)**
Brow raise		0	13 (29.5%)	0 (0%)	2 (50%)
Specific head position		0	15 (34.1%)	4 **(66.7%)**	2 (50%)
Intonation break following the fronted non-topic object	**Blink**	2 (40%)	14 (31.8%)	1 (16.7%)	**3 (75%)**
	Pause	1 (20%)	4 (9.1%)	0	1 (25%)
	Lengthening of the last sign	2 (40%)	1 (2.3%)	0	0

The highest percentages of features that mark fronted non-topic grammatical objects are specific head positions that accompany contrasted objects (66.7%) and blinks that follow fronted constituents in sentences involving negation (75%). Interestingly, brow raise is observed only with fronted constituents in negated sentences or in sentences in which the verb favors verb-final structures. In fact, a

closer examination of the latter category reveals that all of these verbs are negative in meaning, e.g., DISLIKE, DETEST, LACK-KNOWLEDGE-OF, etc. Similarly, for the 15 tokens of specific head positions found with verb-final transitive constructions, all of them involve verbs which are negative in meaning (e.g., DISLIKE, DON'T KNOW).

Taken together, this skewed pattern provides preliminary evidence that brow raise and specific head positions are not used to mark the process of preposing in HKSL per se, unlike what is generally reported in the sign language literature. The evidence here suggests that brow raise and specific head positions can optionally be used to mark focus and/or contrast, particularly in a negative context. Another note-worthy finding is that a noticeable pause is found in only 6 out of 59 tokens of fronted grammatical objects. This makes HKSL very different from other sign languages, in which a fronted grammatical object is usually followed by a pause. In (22) and (23) below, I present two examples of fronted non-topic grammatical objects in the HKSL data.

(22) Contrastive context: no specific nonmanuals
BASKETBALL, IX_1 ENROLL-IN STILL
'The basketball (competition), I still enroll in (it)'

(23) Negative verb that favors verb-final word order: a slight forward head tilt followed by a backward tilt
LOUSY IX_1 DISLIKE
'Lousy (handwriting), I don't like (it)'.

7. General discussion and conclusion

The foregoing discussion has shown that there are no nonmanual markers for 'aboutness' topics in HKSL. 'Scene-setting' topics may optionally be marked by a brow raise and a specific head position, which is a forward head tilt plus a forward body lean in most cases. As for the fronted non-topic grammatical objects, no specific nonmanual signals are found. However, preliminary observations suggest that brow raise and specific head positions may be used if the sentence involves a negator or a verb with a negative meaning, or if the context is contrastive.

The findings here indicate that cross-linguistic variations exist in the use of nonmanuals for information structuring across sign languages. Recall that brow raise and backward head tilt are frequently reported across sign languages for different types of topic constructions such as hanging topics or fronted grammatical objects (e.g., ASL, Auslan, SLN). These topic-marking nonmanuals may serve a wide range of functions like marking focus/emphasis, representing discourse-

old information and what the sentence is about, and setting up the scene for the proposition in a sentence. In contrast, 'aboutness' topics representing discourse-old information and what the sentence is about in HKSL are not accompanied by any nonmanuals at all. Neither are the preposed objects marked nonmanually in HKSL. 'Scene-setting' topics in HKSL are frequently marked by brow raise, as in other sign languages. However, it is a forward head tilt rather than a backward head tilt that is employed by HK deaf signers to signal a 'scene-setting' topic.

In Section 6.1, I mentioned that a few tokens of 'aboutness' topics in HKSL are accompanied by a brow raise, which may be the result of focus or contrast. In the discussion of fronted non-topic grammatical objects in Section 6.3, a similar pattern was described: brow raise, blinks, and specific head positions tend to cluster at contexts involving negation or contrast. Whether brow raise and specific head positions may mark focus/contrast in HKSL cannot be fully resolved here, but preliminary observation of negations in HKSL does lend support to this initial hypothesis. I scrutinized 40 minutes of free conversation by the four native signers and found a total of 23 instances of NOT. Nineteen tokens out of these 23 negative sentences (83%) involve a brow raise that scopes over the whole or part of the proposition preceding the sentence-final negator. Similarly, fourteen tokens of these negative sentences (61%) involve a forward head tilt with or without a forward body lean that scopes over the proposition preceding the sentence-final negator. To illustrate this, an example is given in (24) below.

(24) Sentence-final NOT preceded by brow raise and forward head tilt (br+fht)
br+fht
IX$_1$ REALLY DESIGN NOT
'I didn't really did the design.'

It is therefore possible to hypothesize that brow raise and forward head tilt (+/− forward body lean) are employed in HKSL to mark the focus associated with negation. Besides that, studies in other sign languages or even spoken languages also suggest that brow raise or body leans can be employed to mark focus/contrast. In ASL and NGT, body leans may signal focus/contrast (Wilbur & Patschke 1998; Kooij, Crasborn & Emmerik 2006). Moreover, in spoken English, brow raise may align with pitch accents to signal focused information (Flecha-Garcia 2004). In sum, the evidence we have seen so far points to the possibility that in HKSL, brow raise and forward head tilts may mark 'scene-setting' topics on the one hand, and probably focus/contrast on the other. This actually echoes Davison's (1984) cross-linguistic observation that in spoken languages, formal topic markers very often serve some other discourse functions. Further research is definitely warranted in this area to find out if brow raise and head tilt also serve a focus-/contrast-marking function in HKSL.

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