Non-manual markings for topic constructions in Hong Kong Sign Language

Felix Sze
Centre for Sign Linguistics and Deaf Studies,
The Chinese University of Hong Kong

Abstract

Across sign languages, topic constructions have been reported as being marked by non-manual features such as a brow raise and head tilt. This study investigates whether the notion of topic is expressed non-manually in Hong Kong Sign Language. Spontaneous discourse data show that the majority of 'scene-setting' topics, which serve to provide a temporal, spatial or individual framework for the proposition in the matrix clause, 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 the rest of a sentence is about are not consistently marked by non-manuals or be separated intonationally from the rest of the sentence even if they are external to the matrix clause. Grammatical objects that are fronted to the sentence-initial position are not marked non-manually, either. The findings suggest that cross-linguistic differences exist in the role played by non-manuals in the information structuring of sign languages.

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

1 Introduction

In the sign language literature, topic constructions have been widely reported as being overtly marked by non-manual 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 non-manuals in Hong Kong Sign Language (henceforth HKSL). Evidence from spontaneous discourse data suggest that only 'scene-setting' topics, but not 'aboutness' topics and fronted grammatical objects (i.e. topicalized objects), are marked non-manually in HKSL.

This paper begins with a brief review of some of the controversies surrounding the notion of 'topic' in spoken languages and the definition of topics adopted in this study (Section 2 and 3). This is followed by a review of the sign language literature (Section 4). Section (5) is the research methodology of this study. Particular focus will be given to how different types of topics are identified and coded in the discourse data.

Section 6 discusses the non-manual markings of two types of topic constituents (i.e. 'aboutness' topics and 'scene-setting' topics) and the preposed grammatical objects. Section 7 is the discussion and conclusion.

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 first in order to facilitate the conveyance of new information. This common ground, usually the less informative part of the sentence, serves as an anchor to link the current sentence to the previous discourse.[1] In the spoken language literature, diverse terminologies have been proposed to label the less informative, anchoring part of a sentence: presupposition, theme, topic, link, etc. For the ease of exposition, this paper uses the term 'topic' throughout the discussion.

Despite the intense attention linguists have paid to it, the notion of 'topic' has remained notoriously elusive and there has been no accepted definition of it (Davison 1984; Gundel 1988a; Reinhart 1981; Prince 1997; Birner & Ward 1998; Maslova & Bernini 2006, among many others).[2] In what follows, I will focus on a few areas of controversies on 'topic' in spoken languages and highlight their implications for researchers who are about to investigate topic constructions in any language.

In the spoken language literature, it is commonly held that a topic represents what the speaker wants to talk about and the rest of the sentence serves to provide a comment to the topic. The topic is by default the grammatical subject, typically human and agentive, or can be realized as the sentence-initial constituent in three distinct syntactic constructions (example 1 to 4):[3]

(1) Neike shu, yezi da. (Mandarin example, 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 example, 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 of topic constructions show different degrees of syntactic integration 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.[4] 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 after '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 example (1) and (2) are exemplars of topic constructions alongside with grammatical subjects, whether left-dislocation and topicalization as in example (3) and (4) really represent sentence topics remains a subject 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, an entirely different view is raised by Prince (1998), who provides evidence from natural English speech data that left dislocations serve three functions irrelevant to the concept of topic. According to Prince, the first function of left dislocation is removing a new entity which appears in the discourse for the first time from a syntactic position disfavoured for discourse-new entities and creating a separate processing unit for it. The second function of left-dislocation is to trigger an inference on the part of the hearer that the entity represented by the initial dislocated NP stands in a salient partially-ordered set relation to some entity or entities already evoked in the discourse model.[5] The third function is to produce a syntactically impossible topicalization, where a resumptive pronoun occurs instead of an illicit gap.

Similar controversies can be found in the studies of topicalization in English. Traditionally, topicalization is assumed to perform the function of marking either the topic or focus depending on stress. For example, Lambrecht argues that "in English, German, and French, and no doubt in many other languages, it is possible to use the construction traditionally referred to as 'topicalization' both for 'topicalizing' and 'focalizing' the fronted non-subject NP, the difference being marked only via accent

placement" (1994:201). Similarly, Gundel & Fretheim (2003) suggest that preposed constituents in Norwegian and Finnish can be either topic or focus. There are opposing views, however, which argue for a non-topic/non-focus analysis of the topicalized constituents. Prince (1981, 1998) argues that topicalization in English serves two discourse functions. First, similar to left dislocation, topicalization triggers an inference on the part of the hearer that the entity represented by the initial NP stands in a salient partially-ordered set relation to some entity or entities already evoked in the discourse-model. Second, instead of focusing the moved constituent, topicalization triggers an inference on the part of the hearer that the stressed constituent within the clause is the focus. In more or less the same spirit, Birner and Ward (1998) propose that topicalization requires the link of the preposed constituents be related to an anchor by means of a contextually licensed linking relation, which may include set/subset, part/whole, type/subtype, greater-than/less-than and identity relation. In addition, topicalization may involve three types of prepositional assessments including affirmation, suspension and denial.

The unsettled controversies over the real 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 direct mapping between syntax and pragmatics. As Gundel and 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, researchers 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 researchers' attention is whether topic necessarily comes first in a sentence. The idea that topic always occupies the sentence-initial position has a fairly long tradition in the spoken language literature. For example, extensive discussion on 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), 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 and Thompsons (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.[6]

Typological studies, however, provide counter evidence to the topic-first principle. For example, Gundel (1988b) reports that both TOPIC-COMMENT and COMMENT-TOPIC structures are found in her sample of thirty languages and there is no such universal principle that topic must come before comment. 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 pragmatic factors may be involved in deciding which elements should come first in many languages, especially those whose word orders are less rigid. These findings echo another cross-linguistic survey by 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. Another piece of evidence against the topic-first principle comes from the existence of verb-first languages, in which the verb, a non-topical element, is always required to occupy the sentence-initial position (Lambrecht, 1994:200).

These findings unambiguously indicate that both TOPIC-COMMENT and COMMENT-TOPIC are allowable structures within and across languages. This observation, as well as the controversial status of topicalization and left dislocation mentioned earlier, call for a definition of topic which does not base on syntactic structures alone.

Besides the syntactic distribution of topics, disagreements can also be seen in the semantic/pragmatic nature of topics. From a pragmatic point of view, it is posited that one necessary condition for felicitous topichood is shared familiarity of the topic to both the speaker and the addressee (Prince 1981; Gundel 1985, 1988a, 1988b). Another correlated pragmatic concept is ‘activation’: a referent/proposition is said to be ‘activated’ if both the speaker and the addressee are not only familiar with, but also currently attending to it at the time of the utterance (Gundel 1988a:212). Owing to the fact that topics are familiar and activated at the point of the utterance, topic expressions in the form of a nominal are very often definite rather than indefinite. Li & Thompson state that this requirement of definiteness is absolute and universal, and it is one of the primary characteristics of sentence topics (1976:461). Not all linguists share this view, however. Reinhart (1981), for instance, argues that old information is neither a sufficient nor necessary condition for a topic and 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 requirement has a significant consequence in what structures can be subsumed under 'topic constructions', researchers need to state explicitly what semantic/pragmatic requirement is assumed in the working definition topic.

2.2 Markings of topics in spoken languages

Crosslinguistically, topics can be formally coded by syntactic structures, intonation or morphological markers (Gundel 1988b; Jacobs 2001). For example, Mandarin marks topic with 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.[7] Davison (1984) argues that it is in fact a general property of topic-marking in human languages that no grammatical entity, morpheme or phrase structure configuration exists which uniquely means 'topic'. She observes that English and many languages mark topics with subject morphology and other properties or by extra-sentential sentence adjuncts, yet these devices also have other discourse values. 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 values, topic markers may not be obligatory. In English, for example, a sentence topic may be, but is not necessarily, marked by low pitch prominence (Lambrecht 1994:121). Gundel also observes that, crosslinguistically, the use of topic markers appears to be optional, a fact which distinguishes them from case marking particles (Gundel 1988b).

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. Davison, for instance, takes the position that in English the value of the topic markers "is only derived from the properties of morphological or syntactic constructions, from the properties of pragmatic contexts (i.e. the existence of context information and sentence processing rules) and from some rules of cooperative conversation, as in Grice" (1984:806). Van Oosten argues that "it is impossible to say for sure what the sentence topic of a sentence is without context" (1986:21). In his study of the relationship among intonation, topic and focus, Büring (1997) 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" (1997:28).

The cross-linguistic observation of the unreliability of formal topic markings strongly suggests that identification of topics must be done via a thorough investigation of the discourse context. Researchers must bear in mind that even if topics in a language appear to be consistently accompanied by a formal marker, that formal marker shouldn't be used to define and identify topics, because the possibility exist that some topics may not be marked overtly, as topic marking is very often optional, and that the formal topic marker may also serve some other grammatical functions.

3 Definitions of topic adopted in this study

It has been shown in the previous section 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, it follows logically that if I want to find out how topics are marked in HKSL I need a theoretical framework that emphasizes discourse contexts and provides guidelines for identifying topics in discourse data on semantic/pragmatic criteria apart from purely syntactic ones.

In this study, I assume that there are two types of topics: 'aboutness' topics and 'scene-setting' topics. Following the Topic-Comment Approach advanced by Reinhart (1981) and Gundel (1985, 1988a, 1988b), an 'aboutness' topic represents what the sentence is about. 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 on how to classify new incoming propositions to construct the context set of a discourse. An 'aboutness' topics represents information which is either familiar to both interlocutors, or identifiable to the addressee given the context (Gundel 1988b).[8] According Reinhart and Gundel, the topic of a sentence is by default the grammatical subject, but it may also appear at other syntactic positions depending on context, as in the following example:[9]

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

The above sentences are clearly about Felix, which 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 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).

Apart from 'aboutness' topics, I also adopt Chafe's proposal (1976) that there exists another type of topics – the 'scene-setting' topics – which provide a spatial, temporal or individual framework within which the main predication holds. Such a framework limits the applicability of the main predication to a certain restricted domain. 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).[10] 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:

(6) <u>In meinem Traum</u> war Peter ein Krokodil.
"<u>In my dream</u>, Peter was a crocodile." (Jacobs 2001:657, translation provided by author of this study)

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

In (6), the proposition *Peter was a crocodile* only holds in the domain defined by the 'scene-setting' prepositional phrase *in my dream*. In (7), *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 matrix clause.[11] A 'scene-setting' topic can co-exist with an 'aboutness' topic in a single sentence, as in (6) and (7) above, and sometimes they may coincide (Jacobs 2001).

Both ‘aboutness’ topics and ‘scene-setting’ topics, together with preposed grammatical objects, will be the targeted structures under investigation in this study.

4 Topic constructions in sign languages

Now 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 non-manually 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)

The followings are some examples of topic constructions quoted from these studies. The types of syntactic constructions involved, the non-manual markers for topics, and the functions of the topic marked elements are listed.

t
(8) CAT DOG CHASE
‘As for the cat, the dog chased it.’ (ASL, Liddell 1980:30)

- Type of topic construction: *preposed object*
- Non-manual topic marker: *brow raise*, *head tilt, the topic constituent is held a bit longer.*
- Function of the topic-marked constituent: *represents old information*

--t-------
(9) TICKET, $_1$INDEX GET FINISH
‘Those tickets, I got them.’ (ASL, Padden 1988:91)

- Type of topic construction: *preposed object*
- Non-manual topic marker: *raised eyebrows*
- Function of the topic-marked constituent: *represents focus or emphasis*.

tm1

(10) JOHN NOT-LIKE JANE. MARY, IX-3rd LOVE

'John doesn't like Jane. *Mary*, he loves.' (ASL, Arrons 1996:76)

- Type of topic construction: *preposed object*
- Non-manual 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

(11) VEGETABLE, JOHN LIKE CORN

'As for vegetables, John likes corn.' (ASL, Arrons 1996:78)

- Type of topic construction: *hanging/base-generated topic*
- Non-manual 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.*

(12) ORANGE ORANGE, PUT NOSE

orange (fruit) orange (colour) place (it) as a nose

'As for the orange, (the boy) placed it as a nose.' (ISL, Rosenstein 2001)[12]

- Type of topic construction: *based generated topic*[13]
- Non-manual 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

(13) DOG CAT CHASE

'It's the dog that chases the cat.' (BSL, Sutton-Spence and Woll, 1999:60)

- Type of topic construction: *object*[14]
- Non-manual topic marker: *accompanied with a head nod*
- Function of the topic-marked constituent: *what the sentence is about*

The six examples of topics and their non-manual markings listed above show at least three things. First, sign languages vary in terms of what non-manuals can mark topics, e.g. brow raise marks topics in ASL but not in ISL and BSL. Second, there is a need to separate different sub-types of topics in the investigation of non-manual markers, as Aarron (1996) observes that moved topics and base-generated topics are marked by

different combinations of non-manual features in ASL (see topic marking 1 and topic marking 2 in example (10) and (11) above). 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. For instance, Liddell (1980), Padden (1988), and Aaron (1996) all use preposed grammatical objects in their discussions of the non-manual topic-markers (as in example (8), (9) and (10) above). Though the non-manual features are more or less the same – brow raise is reported in all cases, they differ in the function of this non-manual marking. Liddell claims that the topic marked element represents old information. Padden argues that brow raise marks focus/emphasis. Aaron proposes that contrastive focus is invoked by the non-manuals. 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 types of non-manual markers which happen to look alike on surface.[15] 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 non-manual markings, three separate tables that summarize the findings of these studies are provided here.[16]

Table 1 below lists the types of syntactic constituents covered by the term 'topic' or 'topicalization' across different studies.

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

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

As shown in Table 1, some researchers, such as Liddell (1980) and Padden (1988), mainly focus on preposed constituents at the sentence-initial position (Type I).[17] 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). Examples are Baker and Cokely (1980) and 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). Examples are Coerts (1992) and Janzen (1995, 1997, 1999).[18]

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 / frame-work**	**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)		√				√	√

Table 2 above shows the functions served by different types of topic-related constructions across studies. The functions that have been mentioned in these studies include focus/emphasis, discourse-new information, discourse-old information, what the sentence is 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 overlaps each other.

Table 3. Types of topic-marking non-manuals reported across different studies of sign languages

	brow raise	back ward head tilt	gaze at addres - see	eyes opened wide	lengthen- ing 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,
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 non-manuals in the comment part
Sutton-Spence &Woll (1999) (Type I+II)				√		√	√	
Coerts (1992) (all 3 types)	√							

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

In brief, the findings on the non-manual markings for topics across sign languages are reminiscent of some of the controversies discussed in the spoken language literature. What we can learn from the spoken and sign language literature is that when investigating the topic constructions and their markings in any language, we shouldn't assume that certain syntactic constituents necessarily mark topics, and should be aware that a formal marker that characteristically accompanies topic constituents may serve other functions when appearing elsewhere. Given these, semantic/pragmatic factors and discourse content should play an important role in the identification of topic constituents in the language data.

5 Methodology

5.1. Data collection and transcription

The spontaneous data of this study came from two male and two female native signers of HKSL, all in their twenties.[19] Two types of data were collected: monologue data and conversation data.[20] The monologue data set consisted of 5 elicited narratives and 5 answers to questions. For the narratives, 5 sets of pictures were shown to each of the signers.[21] After understanding the plot represented by the pictures, each signer was asked to put aside the pictures and sign out the story to another deaf signer who sat next to the video camera. Figure 1 below shows the pictures of one of the five stories.

Figure 1. A sample of the five picture sets for eliciting narrative data in this study

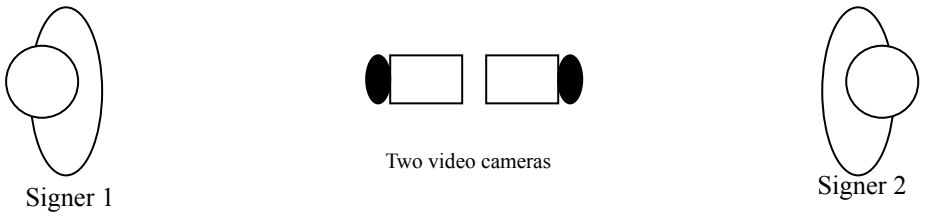
In addition, five questions related to deafness in Hong Kong were designed to elicit monologue data. They were:

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 organized by different deaf associations in HK?
5. What problems are faced by the deaf in HK and what do you hope the government to do in order to improve their situation?

The signers were required to tell their answers to another deaf signer who sat next to the video camera.

As for the conversation data, the four signers were paired up and were 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 in the following diagram.

Figure 2. Sitting and Videotaping arrangement for signing conversation



The two parallel video clips were later combined and synchronized in computer with the images of the two signing participants placed side by side, as shown below:

Figure 3. Video sample of the synchronized HKSL conversation data

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 data were transcribed by the author of this study using ELAN and were checked by the four native deaf signers. The numbers of glosses transcribed for the entire data set were 4437 for the narrative data, 6725 for the question-answer data, and 18636 for the conversation data. Sentence-delimitations were done by the same native signers who served as data informants.

5.2 Identification and coding of topics in the data

As mentioned in the literature review, this study adopts Reinhart's procedure of identifying 'aboutness' topics with minor modifications (Reinhart, 1981). Reinhart's procedure is based on the assumption that adjacent sentences in a discourse can be connected by two types of link. The first one is a *referential link*: two adjacent sentences are considered referentially linked if the two sentences contain a mention of the same referent, or there are set-membership relations between their referents, 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 provided by Reinhart, 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 suggests the following procedure for identifying 'aboutness' topics in a discourse:

(I) 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.

(II) If (I) 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 suggested procedure, the following steps were taken to identify aboutness and scene-setting topics in this study:

(1) In the beginning sentence 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, then 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 definite NPs referentially linked to the previous sentences, then 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]
(6) In HKSL, short answers to wh-questions usually do not contain any topic expressions because they typically contain just the focused information elicited by the corresponding information-seeking 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 were also coded. Discourse status refers to whether the topic is a shifted or continued. Information status, on the other hand, refers to whether the information coded 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 non-manuals coded and measured in the data

Since brow raise, specific head position (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 non-manual features in my analysis. For intonational breaks, I used three types of measurements: namely, a blink, a noticeable pause, and the lengthening of the last sign.

Pause is a relative concept. In the literature, no standard, quantified definition of a 'pause' can be found. Since the transition between two signs would begin to look like a pause if its duration reaches 0.3 sec or above, 0.3 sec is chosen as the baseline.

In the data, any transition equal to or longer than 0.3 sec would be marked as a noticeable pause. As for the lengthening, 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).[24]

6 Results

6.1 'Aboutness' topics in the HKSL data

In my 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 NPs are definite and are mostly fully activated in the discourse, they are usually pronominals or NPs involving a pointing sign as a determiner.[25]

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

In my following discussion of the non-manual markings, I will only focus on topic constituents that are external to the main clause, namely, hanging topics, left dislocations, and sentence-initial grammatical objects.[26] Among the sentence-initial grammatical objects, I will only look at those tokens in which an explicit subject is also present (i.e. OSV). Although SVO is the most frequently attested word order patterns 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 surface involves a moved grammatical object or it merely results from an omission of S from an original SOV structure. Hence, only OSV sequences are considered in the analysis here.

Table 5 below shows the non-manual features accompanying the 'aboutness' topics that are external to the main clauses.

Table 5. Non-manual features accompanying 'aboutness' topics external to the main clauses in HKSL

Types of non-manuals		**Hanging topics (104)**	**Left dislocated constituents (19)**	**Fronted objects as topics (24)**
1. Brow raise		4 (3.9%)	1 (5.3%)	3 (12.5%)
2. Specific head position		9 (8.7%)	1 (5.3%)	6 (25%)
3. Intonational break following the topic constituent	**Followed by a blink**	19 (18.3%)	2 (10.5%)	10 (41.7%)
	Noticeable pause (0.3 sec or longer)	14 (13.5%) (from 0.3 to 1.1 sec)	4 (21.1%) (from 0.3 to 0.62 sec)	3 (12.5%) (from 0.3 to 0.94 sec)
	Lengthening of the last sign (3 video frame/0.12 sec or longer)	16 (15.4%) (3 to 8 frames, 0.12 to 0.32 sec)	4 (21.1%) (3 to 9 frames, 0.12 to 0.36 sec)	3 (12.5%) (4 to 5 frames, 0.16 to 0.2 sec)

The above figures demonstrate that brow raise is observed in a very small number of hanging topics, left dislocations and fronted grammatical objects. Similar, in only a few of these 'aboutness' topics the signers assume a head position that is different from that of the rest of the sentence. In addition, these three types of 'aboutness' topics are not consistently followed by an intonational break. Fronted object topics followed by a blink have the highest frequency rate among different combinations of 'aboutness' topics and non-manual/prosodic signals, but the percentage is still lower than 50%. Given the fact that blinks can occur at a wide range of grammatical boundaries in HKSL (Sze 2008a), the percentage of blinks here is far too low to serve as a topic marker. On the basis of the above figures, I would like to suggest that 'aboutness' topics in HKSL are not consistently accompanied with any non-manual features, nor are they necessarily separated intonationally from the rest of the sentence.

Three examples of 'aboutness' topics are provided here as illustrations (mpeg video clips and ELAN files provided):

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

(15) Left dislocated 'aboutness' topic: no specific non-manual marking
IX-kenny ALL (SAY) IX-kenny STRONG.
'He (kenny), all of them (say) he is strong.'

(16) Fronted object as 'aboutness' topic (no particular non-manuals)
INTERPRETER^SIGN-LANGUAGE GOVERNMENT PAY-THEM NOT-HAVE
'The sign language interpreters, the government does not pay (them).'[27]

If 'aboutness' topics are not marked non-manually 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 eight 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 yet attended to. All of the remaining six tokens of brow raise involve contrastive contexts. In other words, instead of being a marker for 'aboutness' topic per se, brow raise in HKSL probably marks emphasis or contrastive focus, as what Padden (1988) and Aaron (1996) suggest for ASL, The issue of brow raise marking focus or contrast will be taken up in more details 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 different types: conventional temporal adverbials, NPs that set up temporal domains, subordinate clauses that set up temporal domains, as well as 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. They are usually full NPs and are seldom referred to again in subsequent discourse.[28] Table 6 below displays the types of scene-setting topics and some examples.

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 shows the different types of non-manuals that accompany the 'scene-setting' topics.

Table 7. Non-manual markings 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%
♦ **hold**	16	0	16	8	1	9	23	1	24	2	0	2
	20%	0%	14%	53%	33%	50%	32%	50%	33%	22%	0%	20%

Note: I: Sentence-initial position, NI: Non-sentence-initial position, ST : subtotal

Figures from Table 7 indicate that brow raise is frequently used to mark 'scene-setting' topics in HKSL. Over three quarters of NPs that set up temporal domains (78%), locative expressions (80%) and subordinate adverbial clauses (75%) are accompanied with a brow raise. On the other hand, quite a high percentage of the 'scene-setting' topics are also accompanied with a specific head position which is different from the rest of the sentence, though the percentage is a bit lower than that of brow raise. Around 60% of NPs that set up temporal domains, 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 tokens 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). Other types of non-manuals, such as lengthening of the last sign of a topic constituent, the presence of a blink or a pause after a topic, are much less prevalent when compared to brow raise and specific head positions.

Hitherto, it is obvious from the data that brow raise and specific head positions are the primary indicators of 'scene-setting' topics in HKSL. A question that naturally arises is: do these two non-manuals always occur together? Can they be used independently to mark 'scene-setting' topics? To answer this question, I looked at the co-occurrences of brow raise and specific head positions in the data. The results are listed in Table 8 below:

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

Types of non-manuals	**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** ♦ **NO brow raise**	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%)
♦ **NO specific head position** ♦ **brow raise**	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%)

As the figures in Table 8 indicate, 'scene-setting' topics in HKSL are very often marked by both brow raise and a specific head position: 80% of the locative expressions, 61.6% of the subordinate clauses that set up temporal domains, and 61.1% of NPs that set up temporal domains. Yet these two non-manuals may also be used independently. We can also see that except for conventional temporal adverbials, a very high percentage of the 'scene-setting' topics are marked non-manually by either a specific head position or brow raise, or both at the same time.

Here are some examples of 'scene-setting' topics that are marked non-manually in the

HKSL data:

(17) A conventional temporal adverbial: forward head tilt + brow raise

NEXT SATURDAY IX-group-B OTHER B IX-group-B
'Next Saturday, group B (had the competitions).'

(18) An NP that sets up a temporal domain: forward head tilt + brow raise

SECONDARY-TWO, START PLAY-BASKETBALL, HAVE-COMPETION, FARE-BETTER THAN
'At secondary two (=grade8), I started playing basketball and had competitions; I was better than (other senior schoolmates).'

(19) 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.'

(20) 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.'

Basing 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. These non-manual markers are optional but are frequently used. Note also that both sentence-initial and non-sentence-initial 'scene-setting' topics can be marked by a brow raise and/or specific head position. This suggests that these two non-manuals are likely to be a pragmatic function marker 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 can occur in various places in a sentence, and there is a functional contrast between the initial and final position: initial adverbs are adjuncts that have a scene-setting role outside the proposition, and 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 non-manual 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 hypothesis is correct 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 non-manual markings for 'aboutness' topics in general.

In the HKSL data, however, there are 59 tokens of fronted grammatical objects which do not bear 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: the grammatical object is fairly salient in discourse and is spatially modified (i.e. being a pronominal or involves a pointing determiner) (7 tokens), the object is contrastive (6 tokens), the object is a part of the proposition being negated in the sentence (4 tokens), and the sentence involves a plain verb that favors verb-final constructions in general (44 tokens). The non-manual features that accompany these fronted objects are listed in Table 9 below.

Table 9. Non-manual markings for fronted non-topic grammatical objects in HKSL

		Fronted non-topic grammaticalal objects: 59			
		Salient referents with spatial markings	**Involve plain verbs that favour verb-final constructions**	**Involve contrastive context**	**Involve negation /negative modal**
		5	44	6	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%)
	hold	2 (40%)	1 (2.3%)	0	0

The highest percentages of non-manuals that mark fronted non-topic grammatical objects are specific head positions that go with 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 favor 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.

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/contrast, particularly in a negative context. Another note-worthy finding is that a noticeable pause is found in only 6 out of the 59 tokens fronted grammatical objects. This makes HKSL very different from other sign languages, in which a fronted grammatical object is usually followed by a pause.

Here are two examples of fronted non-topic grammatical objects in the HKSL data:

(21) Contrastive context: no specific non-manuals
BASKETBALL, IX-1 ENROLL-IN STILL
'The basketball (competition), I still enroll in (it)'

(22) 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 demonstrated that there are no non-manual markers for 'aboutness' topics in HKSL. 'Scene-setting' topics can optionally be marked by a brow raise and a specific head position, which is a forward head tilt plusa forward body lean in most cases. As for the fronted non-topic grammatical objects, no specific non-manual signals are found. Yet brow raise and specific head positions are observed 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 do exist in the use of non-manuals 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 non-manuals can 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 non-manuals at all. Neither are the preposed objects marked non-manually in HKSL. 'Scene-setting topics' in HKSL are frequently marked by brow raise, as in other sign languages. But 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 in passing that a few tokens of 'aboutness' topics in HKSL are accompanied with 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 is found: non-manuals such as brow raise, blinks and specific head positions

tend to cluster at contexts involving negation or contrast. Whether brow raise and specific head positions can mark focus/contrast in HKSL is of course far too complex to 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. An example is given below as an illustration:

(23) 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 reasonable 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 and Patschke 1998; Kooij, Crasborn and Emmerik, 2006). In spoken English, brow raise may align with pitch accents to signal focused information (Flecha-Garcia 2004). Taken together, the evidence we've seen so far points to the possibility that in HKSL brow raise and forward head tilts can mark 'scene-setting' topics on 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 this is also the case in HKSL.

References:

Aarons, Debra. 1996. Topics and Topicalization in American Sign Language. In *SPIL 26*, *Stellenbosch Papers in Linguistics* 26, 65-106. University of Stellenbosch: South Africa.

Baker, Charlotte & Dennis Cokely. 1980. *American Sign Language: A teacher's*

resource text on grammar and culture. Silver Spring, MD: TJ Publishers.

Birner, Betty & Gregory Ward. 1998. *Information status and noncanonical word order in English*. Amsterdam/Philadelphia: John Benjamins.

Büring, Daniel. 1997. *The Meaning of Topic and Focus - The 59th Street Bridge Accent*. London: Routledge.

Chafe, Wallace. 1976. Giveness, contrastiveness, definiteness, subjects, topics, and point of view. In: Charles Li (ed), *Subject and Topic*, 25-55, New York: Academic Press.

Chen, Ping . 1996. Pragmatic interpretation of structural topics and relativization in Chinese. *Journal of Pragmatics* 26. 389-406.

Coerts, Janes. 1992. *Nonmanual Grammatical Markers: An Analysis of Interrogatives, Negations and Topicalizations in Sign Language of the Netherlands.* Doctoral dissertation, Universit of Amsterdam.

Davison, Alice. 1984. Syntactic markedness and the definition of sentence topic. *Language* 60(4). 797-846.

Erteschik-Shir, Nomi. 1997. *The dynamics of focus structure*. Cambridge University Press.

Firbas, Jan. 1966. On defining the theme in functional sentence analysis. *Travaux Linguistiques de Prague* 1. 267-280.

Fischer, Susan. 1974. Sign Language and Linguistic Universals. In Nicolas Ruwet and Christian Rohrer (eds.), *Actes du Colloque Franco-Allemand De Grammaire Transformationale, Band II: Étude De Semantiques et Autres,* 187 – 204. Tübingen: Niemeyer.

Fischer, Susan. 1975. Influences on Word Order Change in American Sign Language. In Charles Li (ed.), *Word Order and Word Order Change,* 3 – 25. Austin TX: University of Texas Press.

Flecha-Garcia, Maria. 2004. *Eyebrow raising in dialogue: discourse structure,*

utterance function, and pitch accents. Ph.D dissertation. University of Edinburgh.

Geluykens, Ronald. 1992. *From discourse process to grammatical construction: on left dislocation in English.* Amsterdam/Philadelphia: John Benjamins.

Givón, Talmy. 1983. Topic continuity in discourse: An introduction. In Talmy Givón (ed.) *Topic continuity in discourse: a quantitative cross-language study* (Typological Studies in Language, vol.3), .1-42. Amsterdam: John Benjamins.

Gundel, Jeanette & Thorstein Fretheim. 2003. Topic and Focus. In Laurence Horn & Gregory Ward (eds.), *Handbook of Pragmatics*, 173-196. Malden, MA: Blackwell.

Gundel, Jeanette. 1985. 'Shared knowledge' and topicality. *Journal of Pragmatics* 9. 83-107.

Gundel, Jeanette. 1988a. *The role of topic and comment in linguistic theory*. NewYork & London: Garland Publishing, Inc.

Gundel, Jeanette. 1988b. Universals of topic-comment structure. In Michael Hammond, Edith Moravcsik & Jessica Wirth (eds.), *Studies in Syntactic Typology,* 209-239. Amsterdam: John Benjamins.

Haiman, John. 1978. Conditionals are topics. *Language* 54(3). 564-589.

Halliday, Michael. 1967. Notes on transitivity and theme in English. *Journal of Linguistics.* Part I 3:37-81, Part II 3:199-244, Part III 4:179-215.

Halliday, Michael. 1994. *An Introduction to functional grammar*. Second edition. London: Edward Arnold.

Heaton, John Brian. 1966. *Composition through Pictures*. Longman Group Limited.

Herring, Susan. 1990. Information Structure as a Consequence of Word Order Type. In *Proceedings of the 16th Annual Berkeley Linguistics Society (BLS 16).* 163-174 Berkeley Linguistic Society.

Isenhath, John. 1990. *The Linguistics of American Sign Language*. McFarland & Co., Inc., Jefferson, NC.

Jacobs, Joachim. 2001. The dimensions of topic-comment. *Linguistics* 39(4). 641-681.

Janzen, Terry. 1995. Differentiating topic from subjects in ASL. In Marie-Christine Aubin (ed.) *Perspectives d' avenir en traduction,* 57-74. Winnipeg, Presses Universitaires de Saint-Boniface.

Janzen, Terry. 1997. Pragmatic and syntactic features of topics in American Sign Language. *Meta. Numéro special: L'interprétation en langues des signes* 42(3). 502-514.

Janzen, Terry. 1999. The grammaticalization of topics in American Sign Language. *Studies in Language* 23(2). 271-306.

Johnston, Trevor & Adam Schembri. 2007. *Australian Sign Language: an introduction to sign language linguistics*. New York: Cambridge University Press.

Keenan, Elinor Ochs. 1977. Why look at planned and unplanned discourse. In Ochs Keenan and Tina Bennett (eds.) *Discourse across time and space.* Southern California Papers in Linguistics. No.5. 1-42. University of Southern California.

Kooij, E. van der, Crasborn, O.A. & Emmerik, W. 2006. Explaining prosodic body leans in Sign Language of the Netherlands: pragmatics required. *Journal of Pragmatics* 38. 1598-1614.

Lambrecht, Knud. 1994. *Information Structure and Sentence Form: Topic, focus, and the mental representation of discourse referents*. New York: Cambridge University Press.

Le Draoulec, Anne & Marie-Paule Péry-Woodley. 2001. Corpus-based identification of temporal organization in discourse. In Paul Rayson, Andrew Wilson, Tony McEnery & Andrew Hardie & Shereen Khoja (eds.) *Proceedings of the Corpus Linguistics 2001 Conference (Lancester University, UK)*, 29 March – 2 April 2001. 159-166. University of Lancaster.

Lehmann, Christian. 1988. Towards a typology of clause linkage. In John Haiman and Sandra Thompson (eds.), *Clause combining in grammar and discourse*, 181-226. Amsterdam/Philadelphia: John Benjamins.

Li, Charles & Sandra Thompson. 1976. Subject and topic: a new typology of language. In Charles Li and Sandra Thompson (eds.) *Subject and Topic*, 456-489. New York: Academic Press.

Liddell, Scott. 1980. *American Sign Language Syntax*. The Hague: Mouton.

Maslova, Elena and Bernini, Giuliano. 2006. Sentence topics in the languages of Europe and beyond. In Bernini Giuliano and Marcia Schwartz, eds. *Pragmatic organization of discourse in the Languages of Europe,* EALT/EUROTYP, 20-8, 67-120. Berlin and New York: Mouton de Gruyter.

McIntire, Marina. 1980. *Locatives in American Sign Language*. Unpublished Ph.D dissertation, University of California.

Padden, Carol. 1983/1988. *Interaction of morphology and syntax in American Sign Language*. Ph.D. Dissertation, University of California, San Diego. (Published as Outstanding dissertations in Linguistics, Garland Series. New York, London: Garland Publishing, Inc.)

Prince, Ellen. 1981. Topicalization, Focus-movement, and Yiddish-Movement: a Pragmatic Differentiation. In *Proceedings of the Seventh Annual Meeting of the Berkeley Linguistic Society*, 249-264.

Prince, Ellen. 1997. On the functions of left-dislocation in English Discourse. In Akio Kamio (ed.), *Directions in functional linguistics,* 117-144. Philadelphia/Amsterdam: John Benjamins.

Prince, Ellen. 1998. On the limits of syntax, with reference to left dislocation and topicalization. In Peter Cullicover & Louise McNally (eds.), *Syntax and Semantics (Vol. 29),* 281-302. New York: Academic Press.

Prince, Ellen. 1999. Subject-prodrop in Yiddish. In Peter Bosch and Rob van der Sandt (eds.), *Focus: Linguistic, Cognitive, and Computational Perspectives*. (Studies in Natural Language Processing), 82-104. Cambridge: Cambridge University Press.

Reinhart, Tanya. 1981. Pragmatics and linguistics: an analysis of sentence topics. *Philosophica*, 27(1) (Special issue on Pragmatic Theory). 53-93.

Rodman, Robert. 1974. On left-dislocation. *Papers in Linguistics* 7. 437-466.

Rosenstein, Ofra. 2001. *Israeli Sign Language – a topic prominent language*. MA thesis, Haifa University.

Ross, John Robert. 1967. *Constraints on Variables in Syntax*. M.I.T. Ph.D dissertation. Indiana: Indiana University Linguistic Club.

Sutton-Spence, Rachel & Bencie Woll. 1999. *The Linguistics of British Sign Language*. Cambridge: Cambridge University Press.

Sze, Felix. 2003. Word order of Hong Kong Sign Language. In Ann Baker, Beppie van Bogaerde, Onno Crasborn (eds.), *Cross-linguistic Perspectives in Sign Language Research: Selected papers from TISLR 2000*, 163-192. Hamburg: Signum Press.

Sze, Felix. 2008a. Blinks and intonational phrasing in Hong Kong Sign Language. In Joseph Quer (ed.), *Signs of the time. Selected papers from TISLR 2004*, 83–107. Hamburg: Signum.

Sze, Felix. 2008b. *Topic Constructions in Hong Kong Sign Language*. Unpublished Ph.D dissertation, University of Bristol.

Vallduví, Enric. 1992. *The Information Component.* NewYork, London: Garland Publishing, INC.

Valli, Clayton & Ceil Lucas 2000. *Linguistics of American Sign Language.* Washington, D.C.: Gallaudet University Press.

Van Oosten, Jeanne. 1986. *The nature of subjects, topics and agents: a cognitive explanation*. Bloomington: Indiana University Linguistic Club.

Wilbur R.B. & Patschke, C. 1998. Body Leans and marking contrast in ASL. *Journal of Pragmatics* 30. 275-303.

Author contact information

Felix Sze
Centre for Sign Linguistics and Deaf Studies,
Rm 203, Academic Building Two,
The Chinese University of Hong Kong,
Shatin, New Territories, Hong Kong

Email: felix_cslds@cuhk.edu.hk

Acknowledgement:
I would like to thank Kenny Chu, Connie Lo, Pippen Wong and Brenda Yu at the Centre for Sign Linguistics and Deaf Studies, The Chinese University of Hong Kong, for serving as my language informants and for spending numerous hours on checking and confirming the data with me. My thanks also go to Rachel Sutton-Spence, who guided me throughout the writing of my Ph.D dissertation on which this paper is partially based.

Tables

Figures

[1] The division of given/new information in a sentence and how such division is expressed to achieve different pragmatic ends are known as 'information structuring' or 'information packaging'.

[2] It is far beyond the scope of this paper to give a comprehensive review of what has been debated and argued for about 'topic' in the spoken language literature in the past decades. For a more detailed review, readers can refer to Vallduví (1992) and Sze (2008).

[3] In the literature, diverse covering labels have been 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 terminology, however, only hanging topics are called 'syntactic topics' (1986:32). In contrast, Davision considers all three types of topic constructions together with those realized in other syntactic positions 'sentence topic'/'topic' (1984:806). Maslova & Bernini (2006) categorize topicalization, left-dislocation and passivization as instances of 'packaging topic', which implies that they are topic-oriented 'packaging variants' of canonically-ordered sentences with identical propositional content. To avoid terminological confusion, I will call these topic-related structures 'hanging topic', 'left-dislocation' and 'topicalization' respectively in this paper.

[4] A hanging topic can also be 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.

[5] Poset relations include the usual set relations, identity relation, relations such as is-a-part-of, is-a-subtype-of, and has-a-relation (Prince 1998)

[6] Li and Thomposon write: "…it is worth noting that the surface coding of topic in all the languages we have examined always involve the sentence-initial position…The reason that the topic but not the subject must be in sentence-initial position may be understood in terms of discourse strategies. Since speech involves serialization of the information to be communicated, it makes sense that the topic, which represents the discourse theme, should be introduced first" (1976:465).

[7] Lambrecht suggests that the absence of unambiguous formal marking of topics in many languages is attributable to the fact that there are degrees to which elements of propositions quality as topics (1994:119).

[8] As mentioned in Section 2, Reinhart argues that old information is neither a sufficient nor necessary condition for a topic and that topics only need to be referential (1981:78). 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 far 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, then Reinhart's justification of lowering the pragmatic requirement to referentiality will no longer hold.

[9] A similar view is expressed by other linguists. For instance, Lambrecht 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." (1994:136)

[10] There has been controversy over the topic status of sentence-initial temporal or locative expressions in the literature. Jacobs (2001) strongly argues for their topic status, due to the fact that these expressions are marked overtly as topics in languages

with overt morphological topic markers.

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

[12] This example is quoted from a manuscript of Rosenstein's MA thesis which does not contain page number.

[13] Rosenstein 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.

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

[15] It is not clear whether Padden's 'focus' corresponds to Aaron's 'contrastive focus'. If not, brow raise serves three distinct functions in ASL.

[16] Due to space restriction I cannot provide a detailed description of the connections among topic constructions, their functions and their associated non-manuals in each of the cited study here. For a much detailed review please see Sze (2008b).

[17] 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, personal communication).

[18] The two studies cited here appear to make use of the availability of non-manuals to determine whether a non-sentence-initial constituent is a topic or not. This methodology, i.e. using non-manuals alone to identify topics, is potentially problematic. As I have pointed out in the literature view, it is very common for a formal marker of topic to serve some other grammatical functions in spoken languages. Given the observation that, at least in ASL, brow raise accompanying a preposed object can signal old information, emphasis or contrastive focus, if one uses brow raise to identify topics then it is likely that some of these 'topics' might in fact be focus or contrast rather than real topics per se.

[19] The deaf signers graduated from the same deaf day-school. All have deaf parents (both mother and father deaf), and two of them have a deaf elder sister who also signs at home. All of these four informants have been using HKSL as the preferred means of communication since birth.

[20] The data were collected and used originally for the author's Ph.D dissertation on topic constructions in HKSL.

[21] The picture stories were chosen from a guided composition book for English learners (Heaton 1966).

[22] It is not the case that the definite subject of a matrix clause is always selected as the topic. Erteschik-Shir (1997:13) argues that in the sentence "I think that John FELL ASPLEEP", 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 concern 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 'existential' *there*-sentences as in '*Once upon a time there was a handsome prince*' are typical examples of presentational sentences.

[24] The most ideal way of checking whether the topic constituent is lengthened or is followed by a pause is to compare it with exactly the same sign in a sentence-medial position by the same signer. Yet this method is not feasible with spontaneous discourse data.

[25] Around 19% of the 'aboutness' topics involve right-dislocated, sentence-final pronouns. These sentence-final pronouns are excluded from the discussion of non-manual topic markers here unless they have an NP antecedent being a sentence-initial hanging topic, dislocation or a fronted topical grammatical object. For a detailed discussion of right dislocation, readers can refer to Sze (2008b).

[26] Although topic-marked subjects are reported in some sign languages, at this initial stage of analysis I would like to focus on topic constituents which are more likely to be set off from the rest of the sentence intonationally.

[27] 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.

[28] 'Scene-setting topics', being full NPs most of the time, cannot be right-dislocated to the sentence-final position.