Another type of List Buoy in Japanese Sign Language: Emergence from gesture

This paper reports a previously unnoticed type of List Buoy ([4]) in Japanese Sign Language (JSL) and discusses its consequence for the theory of grammaticalization of gestures.

Signers frequently produce signs with the weak hand held in a stationary position as the strong hand continues producing signs. Since Liddell [4], those that are used to list or enumerate sets of entities are known as List Buoy (LBs). It has been reported that several sign languages have LBs and that their LBs share similar properties as those described by [4] (see e.g. [3], [5]). JSL has such LBs (see Figs. 1-2), but in addition to this “standard” type of LBs (henceforth, S-LBs), JSL signers also use an LB as illustrated in Figs. 3-4, in which the fingers of the weak hand are oriented inward and folded one by one and thus not extended horizontally as in the case of an S-LB. I refer to this type of LB as inward LBs (I-LBs). I-LBs differ from S-LBs in several respects: (i) Unlike S-LBs, I-LBs are not allowed to use when the associated entities are ordered (1); (ii) When the listed items are topicalized, the use of I-LBs makes a sentence unacceptable (2); (iii) LBs do not occur in an explicative type of discourse (3).

One possible explanation of the restricted distribution of I-LBs is that an I-LB is a gesture that co-occurs with signing and is thus not yet a “full-fledged” linguistic item. This seems to be a plausible analysis, considering that I-LBs are typically used to keep track of counted items. Moreover, JSL signers and speakers of spoken Japanese use a counting gesture that involves folding the fingers similarly to an I-LB. However, I show that an I-LB is not a gesture but a grammaticalized element, based on the experiments conducted with native informants of Japanese and JSL. In the experiments, the participants were given a number of semantic contexts such as (1) and (3) and were told to list sets of entities under these contexts. The results of the experiments reveal crucial differences between I-LBs in JSL and gestures used by speakers of the two languages: (i) When JSL signers use I-LBs, they consistently insert pointing (PT) with their dominant hand (Fig. 5) to contact the tip of their weak hand before/after describing the associated entity, but this is not the case with gestures; (ii) Gestures may be used only partially in the speech, but such incomplete usage is never observed with I-LBs; (iii) While co-speech gestures of Japanese are used to make associations with both ordered and unordered entities, the use of I-LBs is limited to the contexts that involve unordered listing.

In light of these observations, I propose that the I-LB in JSL is a linguistic item that has undergone grammaticalization from a counting gesture (CG). Specifically, I claim that an I-LB in JSL is a coordinator head & emerged from the process in (4a-c), which carries the two basic functions of counting (cf. [1]): to keep track of (un)counted items and to tag each item with the number word. At the first stage, CG, with the weak hand, a precursor of &x, is associated with a nominal object as in (4a) (the subscript X shows the number word associated with the object). Next, PT with the dominant hand is introduced and plays a crucial role to “tag” the nominal root in (4a) with its associated CG, by lexicalizing it and incorporating it in a hierarchical structure (4b). Finally, the two movements performed by the two hands – PT and number tracking – become fully grammaticalized as an independent lexical sign, &x, as shown in (4c). This proposal captures the properties of I-LBs described above. Having evolved from a CG, I-LBs bear the primary function of counting. In this task, the number of entities that are yet to be counted is generally not provided as given information. This explains why I-LBs are not compatible with contexts in which a speaker already knows how many items there are in the list, such as ordered listing (1), topicalization (2), and an explanatory speech (3).

This analysis is consistent with data that concern PT observed in early child language acquisition (cf. [2], [6]). Takei & Torigoe [6] (T&T) show that deaf infants acquiring JSL who are in the stage between one- and two-sentence periods exhibit PT before or after a lexical sign as illustrated in (5). Interestingly, this pattern is analogous to the PT used in I-LBs, as shown in (6). There is another similarity: the PT used by infants at this stage is not referential but simply tagged to the nominal that follows or precedes the PT, and likewise, the PT of I-LBs associated with a nominal is not referential. T&T, based on their findings, argue that PT as in (5) helps infants make a transition from one- to two-word speech as in (7). The present analysis can be used to explain this insight: PT, once introduced in an infant’s vocabulary, functions as a categorizer of a root and incorporates it into a two-word sentence structure like (8).
Context: List three alcohol drinks that you like best in order.

a. \(\text{LIKE WHAT} \ S-LB_1 [\text{WINE}] \ S-LB_2 [\text{SAKE}] \ S-LB_3 [\text{BEER}].\)

b. \(*\text{LIKE WHAT} \ I-LB_1 [\text{WINE}] \ I-LB_2 [\text{SAKE}] \ I-LB_3 [\text{BEER}].\)

‘What I like is wine, sake, and beer, in this order.’

Context: You are a server in a restaurant. Introduce today’s special dessert to a customer.

\(\text{TODAY DESSERT} \ldots\)

a. \(\text{S-LB}_1 [\text{CAKE}] \ S-LB_2 [\text{ICE CREAM}] \ S-LB_3 [\text{PUDDING}] \text{THREE.}\)

b. \(*I-LB_1 [\text{CAKE}] I-LB_2 [\text{ICE CREAM}] I-LB_3 [\text{PUDDING}] \text{THREE.}\)

‘For today, we have cake, ice cream, and pudding, these three.’

Counting gesture (CG)\n
CG_1\(\sqrt{\text{apple}} \ldots\)

CG_2\(\sqrt{\text{orange}} \ldots\)

\(n\) \quad CG_1

number tracking
(weak hand)

\&_1

\(\sqrt{\text{apple}}\)

NP

\&_1

APPLE

I-LB

pointing
(dominant hand)

a. \(\text{PT} + \text{sign}\)

b. \(\text{sign} + \text{PT}\)

‘cat’

(cf. [6]: 57)

\(\text{LIKE WHAT} \ I-LB_1 [\text{WINE}] \ I-LB_2 [\text{SAKE}] \ I-LB_3 [\text{BEER}] \text{THREE.}\)

b. \(\text{LIKE WHAT} [\text{WINE}] I-LB_1 [\text{SAKE}] I-LB_2 [\text{BEER}] I-LB_3 \text{THREE.}\)

‘What I like is wine, sake, and beer.’

\(\text{PT EAT.}\)

‘eat an apple’ (18 months)

([6]: 59)

b. \(\text{APPLE EAT.}\)

‘eat an apple’ (after 18 months)

(cf. [6]: 59)

\(\text{Structure of (7a) and (7b)}\)

\([\text{cat} [\sqrt{\text{apple}} \ n] \text{EAT}]\)

References