ASL IX to locus as a modifier

In ASL, a pointing gesture with an index finger (IX) can be used to refer to entities. When the referent is not physically present in the context, it can be associated with different locations in the signing space (locus) so that IX to that locus refers to that referent. It has been argued that loci are overt instantiations of indices (Lillo-Martin & Klima 1990) that the pronominal element IX carries. I propose an alternative analysis of IX to a locus (IX_{LOC}) where it is analyzed as a relative clause modifier, taking a locational variable $a$ as in (1). There are two main novelties: first, IX and a locus are not analyzed separately as a pronom and an index, respectively, as in previous studies Koulidobrova & Lillo-Martin 2016; Lillo-Martin & Klima 1990. Instead, IX_{LOC} as a whole is analyzed as one morphosemantic element, similar to exophoric pointing gestures used in spoken languages. Second, IX_{LOC} is not analyzed as an anaphoric element as assumed in the literature. Instead, it is analyzed as a modifier that can compose restrictively or non-restrictively with nominal expressions.

(1) $[\text{IX}_{\text{LOC}}] = \lambda a. \lambda x. x$ is signed at $a$

There are at least two motivations for this analysis. First, loci are neither obligatory nor licensed in all anaphoric contexts. ASL freely allows null arguments and bare nouns for anaphoric reference when there is a single salient entity in the discourse (Ahn, Kocab, & Davidson 2019) as in (2).

(2) BOY ENTER CLUB. a. DANCE. b. BOY DANCE.

‘A boy entered a club.’ ‘He danced.’ ‘The boy danced.’

Also used in this context (with no competing referents) is a neutral IX, which points not to a previously established locus but to a neutral position, as in (3).

(3) BOY ENTER CLUB. IX_{NEUT} DANCE.

‘A boy entered a club. He danced.’

In contrary, IX_{LOC} is not frequent in naturally produced data (Czubek 2017; Frederiksen & Mayberry 2016), and is licensed when contrast has to be drawn between referents (Ahn, Kocab, & Davidson 2019) as in (4). This suggests that the primary role of IX_{LOC} might be in distinguishing the intended referent from a set of other competing referents, rather than in anaphorically referring to that referent.

(4) BOY IX_{A} SEE GIRL IX_{B} READ. IX_{A} DANCE.

‘A boy saw a girl read. He danced.’

Second, IX to locus is only licensed when the locus has been associated with the referent in previous discourse, which I call the introductory use. The introductory uses are illustrated in (5), where loci A and B are first associated with Jin and Justin, respectively, with IX_{A} and IX_{B}.

(5) JIN *(IX_{A}) HANG-OUT JUSTIN *(IX_{B}). IX_{A} DANCE. IX_{B} READ BOOK.

‘Jin was hanging out with Justin. Jin danced and Justin read a book.’

Note that without the first instances of IX_{A} and IX_{B} in (5), it is infelicitous to use either locus to refer to the referents introduced in the first sentence. This dependency – that the second instance cannot occur without the first – suggests that the two forms play different roles: one associates a referent with a locus, while the other refers back to that referent using that locus.
This is incompatible with analyzing both instances of IX\textsubscript{LOC} in the first and second sentences as anaphoric elements. If IX\textsubscript{LOC} in the second sentence is analyzed as a pronoun, an anaphoric element, the introductory use of IX\textsubscript{LOC} would need a separate account from the anaphoric one.

If IX\textsubscript{LOC} is analyzed as a modifier, however, the difference between the introductory use and the anaphoric use can be derived straightforwardly without proposing two separate denotations. More specifically, I argue that IX\textsubscript{LOC} is like a relative clause that can compose restrictively and non-restrictively with nouns. In the introductory use, the referential expression Jin combines with a relative clause ‘that is signed at A’ in a non-restrictive manner, so that the resulting interpretation is the individual Jin with an added, propositional information that he is signed at A. In the anaphoric use, I propose that a null anaphor, which is readily available in the language, is the head noun of the same relative clause ‘that is signed at A’, and that the relative clause is restrictive as in (6b), returning the unique entity that is signed at A. Relative clauses with null heads are also found in spoken languages like Mandarin, as in (7).

\begin{equation}
(6) \hspace{1cm}
\begin{align*}
a. & \quad \text{[JIN IX\textsubscript{A}] = [jin [who is signed at A]]} \quad \text{‘Jin’} \\
b. & \quad \text{[IX\textsubscript{A}] = [∅ IX\textsubscript{A}] = } \text{x is signed at A} \quad \text{‘the one signed at A’}
\end{align*}
\end{equation}

(7) \hspace{1cm} \text{Wo mai-de hen gui.} \\
I \text{ buy-RC HEN expensive} \\
‘The thing I bought was expensive.’

While non-restrictive relative clauses are standardly assumed to differ from restrictive ones in structure and meaning (cf. Del Gobbo 2007), they are not always overtly distinguished in languages like Japanese (cf. Kuno 1973). Thus, it is possible that in ASL, too, IX\textsubscript{LOC} has these two uses without overtly distinguishing them.

Analyzing IX\textsubscript{LOC} as a modifier that can compose non-restrictively in the introductory use and restrictively in the anaphoric is compatible with the argument in MacLaughlin 1997 that post-nominal IX is an adverbial, though the current proposal is only for IX\textsubscript{LOC} and not IX in neutral position. Kuhn 2015 argues that loci are features. The modifier analysis of IX\textsubscript{LOC} could be seen as a feature-based analysis, analyzing them like meaningful phi-features. However, the current analysis is different in that a) Kuhn’s proposal is mainly a syntactic one, and b) Kuhn analyzes loci, not IX\textsubscript{LOC} as a whole, as features, while maintaining that IX is a pronoun. Thus, it still faces the challenge of analyzing the introductory use discussed above.

Another advantage of this proposal is the similarity we observe with exophoric pointing gestures in spoken languages. Note that exophoric pointing also has the two properties of IX\textsubscript{LOC}: a) it is used contrastively to point out a referent from competing referents; and b) it has both restrictive and non-restrictive uses as in (8).

\begin{equation}
(8) \hspace{1cm}
\begin{align*}
a. & \quad \text{John\textsubscript{→A} looks happy.} \quad \text{‘John looks happy; he is at location A’} \\
b. & \quad \text{She\textsubscript{→A} looks happy but she\textsubscript{→B} does not.} \quad \text{‘the female entity at A/B’}
\end{align*}
\end{equation}

If we analyze an exophoric pointing gesture as a modifier like (1) (pointing to A meaning ‘x is at A’), we can capture this similarity between ASL and English.

Thus, analyzing IX\textsubscript{LOC} as a relative clause modifier allows us to unify the introductory and the anaphoric use, better account for the contrastive distribution, and capture unique properties of an exophoric pointing across modalities.

Czubek, T. 2017. A comprehensive study of referring expressions in ASL. PhD Thesis. BU.
Kuhn, J. 2015. ASL Loci: Variables or features? \textit{JoS} 33.