

# snippets

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Recent dynamic approaches to ‘donkey’ pronouns are designed to account for cases of ‘maximal set’ anaphora as in (1), where a pronoun refers to the maximal group of individuals that satisfy both the restrictor and the nuclear scope of a generalized quantifier.

**(1) Maximal Set Anaphora**

(a) Few / (b) Most students came to class, (a) but / (b) and they asked good questions.

Two additional patterns are in need of analysis: in ‘restrictor set’ anaphora, a pronoun refers to the individuals that satisfy the restrictor of the noun phrase antecedent – in (2), the entire set of students; in ‘complement set’ anaphora, a pronoun appears to refer to the complement within the restrictor set of the maximal set – e.g. in (3a), *they* seems to refer to the students who did *not* come to class.

**(2) Restrictor Set Anaphora**

(a) Few / (b) Most students came to class. They (a) aren't / (b) are a serious group.

**(3) Complement Set Anaphora**

(a) ?Few / (b) #Most students came to class. They stayed home instead.

Complement set anaphora is notoriously restricted: it is often impossible with non-negative quantifiers, as in (3b); and some cases involving negative quantifiers can be re-analyzed in terms of a ‘restrictor set’ reading with a collective interpretation that tolerates exceptions. Following Nouwen 2003, we assume that when complement set anaphora is genuinely available it involves *inferred* discourse referents, and that no *grammatical* mechanism makes available a discourse referent denoting the complement set.

ASL signers can realize anaphora by (i) associating a locus in signing space to an antecedent; and (ii) pointing towards this locus (or ‘indexing’ it) to establish pronominal reference. However, step (i) can involve a single *default locus*, in front of the signer – in which case locus establishment need not be explicit. Alternatively, non-default loci can be introduced. We show below that in the first case, English-style judgments can be replicated: complement set anaphora is severely restricted. By contrast, complement set anaphora in ASL versions of (3) becomes available when several *embedded* loci are introduced, with one locus denoting the set of all students, and a sublocus the set of students who came to class.

When the ‘default locus’ strategy is used, maximal set anaphora (as in (4a-b)) and restrictor set anaphora (as in (4a'-b')) appear to be available, as suggested by high

ratings obtained from our main ASL consultant (1 = worst, 7 = best; average score over 3 iterations on separate days).

- (4) a. 6.7 POSS-1 STUDENT FEW a-CAME CLASS.  
 'Few of my students came to class.'  
 IX-arc-a a-ASK-1 GOOD QUESTION  
 'They asked good questions.'
- b. 6 POSS-1 STUDENT MOST a-CAME CLASS.  
 'Most of my students came to class.'  
 IX-arc-a a-ASK-1 GOOD QUESTION  
 'They asked good questions.'
- a'. 6 POSS-1 STUDENT FEW a-CAME.  
 'Few of my students came.'
- b'. 6.7 POSS-1 STUDENT IX-arc-a MOST a-CAME CLASS.  
 'Most of my students came to class.'  
 IX-arc-a SERIOUS CLASS.  
 'They are a serious class.'

The crucial data involve complement set anaphora, which we tested with our main consultant (3 iterations) and with two further consultants (one iteration each), with degraded averages that appear in (5) (1st score: equal weight for each trial; 2nd score: equal weight for each consultant).

- (5) POSS-1 STUDENT FEW a-CAME CLASS. POSS-1 STUDENT MOST a-CAME CLASS.  
 a. 3.6 [3.6] IX-arc-a a-STAY HOME      b. 2.8 [2.7] IX-arc-a a-STAY HOME  
*Intended:* 'Few/Most of my students came to class. They [the students that didn't come] stayed home.'

In (6), by contrast, we provide our main consultant's judgments (3 iterations) based on the second anaphoric strategy ('embedded loci'), which consists in establishing a large plural locus *A* for the restrictor set [= the set of all students], and a sublocus *a* for the maximal set [= the set of students who came]. Remarkably, this strategy automatically makes available a locus *A-a* for the complement set. As a result, all three readings become equally available, though with different indexings (importantly, all involve normal plural pronouns, and not the word *OTHER*). For perspicuity, we notate the large area *A* as *ab* to indicate that it comprises subloci *a* and *b* – although it is just signed as a large circular area (due to the subtlety of the *a* vs. *ab* contrast, we asked our main consultant to check the transcription, and we provide one that he accepted):

- (6) POSS-1 STUDENT IX-arc-ab MOST IX-arc-a a-CAME CLASS.  
 a. 7 IX-arc-b b-STAY HOME  
 b. 7 IX-arc-a a-ASK-1 GOOD QUESTION  
 c. 7 IX-arc-ab SERIOUS CLASS.

Data pertaining to complement set anaphora were also assessed in the same video as (5) (same 3 consultants); the scores confirm that with embedded loci complement set anaphora becomes readily acceptable ((7b) is similar to (6a) but was part of a different video):

- (7) a. 6.7 [6.5] POSS-1 STUDENT IX-arc-ab FEW IX-arc-a a-CAME.  
 IX-arc-b b-STAY HOME
- b. 6.3 [5.8] POSS-1 STUDENT IX-arc-ab MOST IX-arc-a a-CAME.  
 IX-arc-b b-STAY HOME
- '(a) Few/ (b) Most of my students came to class. They [= the students who didn't come] stayed home.'

We hypothesize that assignment functions assign values to loci (Schlenker 2011), and we further assume that: (a) geometric properties of plural loci (*qua* areas of space) guarantee that if a locus  $A$  and a sublocus  $a$  have been introduced, a complement locus ( $A-a$ ) becomes *ipso facto* available; (b) relations of inclusion and subtraction among loci are preserved by the interpretation function *via* constraints on assignment functions – an instance of ‘structural iconicity’. Specifically:

- (8) Let LOC be the set of plural loci that appear in signing space, and let  $s$  be an admissible assignment function that assigns values to loci. We make the assumptions in (a)-(b), where we view plural loci as sets of geometric points, and loci denotations as sets of individuals.
- a. Conditions on LOC: for all  $a, b \in \text{LOC}$ ,  
(i)  $a \subseteq b$  or  $b \subseteq a$  or  $a \cap b = \emptyset$ ; (ii) if  $a \subset b$ ,  $(b-a) \in \text{LOC}$
- b. Conditions on  $s$ : for all  $a, b \in \text{LOC}$ , if  $a \subset b$ , (i)  $s(a) \subset s(b)$ ; (ii)  $s(b-a) = s(b)-s(a)$

In examples (4)-(7), we take the grammar to make available (i) a discourse referent for the maximal set and the restrictor set, but (ii) no discourse referent for the complement set. In case a default locus is used, ASL roughly behaves like English, and complement set anaphora is highly restricted (because of (ii)). In case embedded loci are used, ASL allows for complement set anaphora in all cases. Here is why: if  $a$  is a proper sublocus of a large locus  $ab$ , we can infer by (8a.ii) that  $(ab-a)$  (i.e.  $b$ ) is a locus as well; by (8b.i), that  $s(a) \subset s(ab)$ ; and by (8b.ii), that  $s(b) = s(ab)-s(a)$ . In effect, complement set anaphora becomes available because ASL can rely on an iconic property which is inapplicable in English.

### References

- Nouwen, R. (2003) *Plural Pronominal Anaphora in Context*. PhD thesis, Utrecht.  
Schlenker, P. (2011) “Iconic agreement.” *Theoretical Linguistics* 37, 3-4: 223–234.

### Author’s note

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### Editor’s note

This is an invited submission, and it was therefore not subject to the usual length restrictions and review process.