Weak crossover in Italian Sign Language

Language: ASL and English

Introduction
Despite the pronominal system of SLs is influenced by the use of signing space (a.o. [1], [2] and [3]), it crucially interacts with other syntactic properties of human language, like the principles of binding theory [2]. In this talk we address the interaction between binding and syntactic movement by investigating weak crossover (WCO) in LIS. While crossover phenomena are partially investigated in ASL [5], [6] no study addresses an in-depth investigation of WCO in SL.

The picture
The examples in (1) illustrate a case of WCO in English. The bound reading of the pronoun in the subordinate clause is possible in (1a-b), but is crucially unavailable in (1c). (1c) is a case of WCO: the wh-phrase crosses and binds a non-commanding pronoun. The resulting sentence is ungrammatical. Two influential explanations for this fact have been proposed in the literature, the Leftness condition (LC) (2) [7], and the Bijection Principle (BP) (3) [8].

LIS & WCO
We start by illustrating the three properties of the structure of LIS that are essential to understand how WCO is generated in the language: a) LIS is a head-final language (4), b) wh-movement targets the right periphery of the clause (5) [10], c) sentential complements are displaced either in clause final (6a) or clause initial position (6b) [9]. WCO in LIS is shown in (6-7). (6a) shows that the sentential complement follows the matrix verb THINK. The ungrammatical example in (7a) is a case of WCO: the wh-pronoun moves from the subject position targeting the right periphery of clause. In doing this, it crosses the sentential complement containing a possessive marker. Forcing a bound reading generates ungrammaticality. Example (7b) shows that wh-movement per se does not generate ungrammaticality. However, example (7c) shows that when linear crossing of the wh-phrase is avoided by topicalizing the sentential complement in clause initial position (an option available with the verb SAY but not with THINK) WCO is not observed. The same patter is observed with adjunct clauses (e.g. if-clauses vs. because-clauses, cf. (8)).

Theoretical issues & solution
Neither the LC or the BP is able to capture why (7c) is acceptable and (7a) is not. The LC predicts both sentences to be equally grammatical, while the BP predicts both to be ungrammatical. Notice however, that modulo small structural differences, (7a) is the syntactic mirror image of (1c), a case of WCO. The issue is that while the LC is proposed in a framework allowing leftward movement only, the data from LIS shows that the same constraint is operative with rightward movement. To capture WCO in both configurations we propose (9).

Conclusion
The data from LIS show that genuine cases of WCO exist in SLs and support the analysis of rightward wh-movement in LIS. However, WCO in LIS poses a non-trivial problem for the main accounts currently available. Our proposal captures WCO in both spoken and signed languages in a simple and elegant way.

Examples

(1)   a. His$_i$ brother said that he$_i$ kissed Mary
        b. Who$_i$ ~~who$_i$~~ said that he$_i$ kissed Mary?
        c.* Who$_i$ does his$_i$ brother said that ~~who$_i$~~ kissed Mary?

(2)   **Leftness condition**: A trace cannot be co-indexed with a pronoun on its left.

(3)   **Bijection principle**: There is a bijective correspondence between variable and A-bar positions.

(4)   GIANNI CONTRACT SIGN CAN 'Gianni can sign the contract'

(5)   CAR STEAL WHO 'Who stole the car?'

(6)   a. GIANNI$_i$ THINK/SAY [CUSTOMER POSS$_i$ ALWAYS SATISFY]
        'Gianni thinks/says that his customers are always satisfied'
        b. [CUSTOMER POSS$_i$ ALWAYS SATISFY] GIANNI$_i$ SAY
        c. * GIANNI$_i$ [CUSTOMER POSS$_i$ ALWAYS SATISFY] THINK/SAY

(7)   a. * ~~WHO$_i$~~ THINK CUSTOMER POSS$_i$ ALWAYS SATISFY WHO$_i$
        b. ~~WHO$_i$~~ THINK GIANNI LEAVE (IX-3) WHO
        'Who thinks that Gianni has left?'
        c. CUSTOMER POSS$_i$ ALWAYS SATIFY ~~WHO$_i$~~ SAY WHO$_i$
        'Who said that his customers are always satisfied'

(8)   a. ? STUDENT POSS$_i$ WIN, HAPPY (IX-3$_i$) WHO$_i$
        'Who$_i$ is happy if his$_i$ student win?'
        b. * GIANNI$_i$ ~~WHO$_k$~~ HATE BECAUSE PIERO$_z$ BOOK POSS$_k$ LOOSE WHO$_k$
        Intended meaning: 'Who$_k$ does Gianni hate because Piero lost her$_k$ book'

(9)   **Intervening condition:** The trace of A-bar movements cannot be co-indexed with a pronoun that is linearized between the two copies of the chain.

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