

Relatively similar: Relative clause typology and sign languages

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1 Introduction¹

- Due to the unique possibilities made available by the visual-gestural modality (as well as due to the constraints imposed by it), sign languages (SLs) are more similar to each other than spoken languages: the Variation Hypothesis (Meier 2002).
- Still, SLs clearly differ from each other along well-defined lines w.r.t. the expression of certain grammatical features such as interrogativity (Zeshan 2004b), negation (Pfau 2002; Pfau & Quer 2002; Zeshan 2004a), plurality (Pfau & Steinbach 2006), and classification (Nyst 2007), amongst others (see Perniss et al. (in press) for an overview).
- In this talk, we will consider the typological variation as attested in the domain of relativization by discussing the relativization strategies of Italian SL (*Lingua Italiana dei Segni*: LIS) and German SL (*Deutsche Gebärdensprache*: DGS).
- We discuss the SL data against the background of the typological variation attested across spoken languages, thereby showing (i) that the two SLs clearly differ from each other in their relativization strategies but (ii) do so along the same lines as spoken languages do.

2 A typological perspective on relative clauses

- Relative clause (RC) constructions are known to show considerable typological variation across languages (Keenan 1985; Lehmann 1986).
- Parameters to be considered: (i) post- vs. pre-nominal RCs; (ii) externally vs. internally headed relatives; (iii) use of relative pronoun (RPRO) or relative complementizer; (iv) restrictive vs. appositive RCs.
- In head-external RCs, the head noun (HN) is outside of the RC. Head-external RCs may be post-nominal, as in English (1a) and German (1b), or pre-nominal, as in Japanese ((2a); McCawley 1972:205) and Basque ((2b); Keenan & Comrie 1977:72).

- (1) a. [[**The girl**]_{HN} [(who) I met yesterday]_{RC}] seemed to like me
 b. Ich lese [[**das Buch**]_{HN}, [das du mir empfohlen hast]_{RC}]
 I read the book RPRO you me recommend.PART have.2SG
 ‘I read the book which you have recommended to me.’
- (2) a. [Yamada-san ga ka’t-te i-ru]_{RC} [**sa’ru**]_{HN}
 Yamada-Mr. SUBJ keep-PART be-PRES monkey
 ‘the monkey which Mr. Yamada keeps’
 b. [[gizon-a-k liburu-a eman dio-n]_{RC} [**emakume-a**]_{HN}]
 man-the-SUBJ book-the give has-REL woman-the
 ‘the woman that the man has given the book to’

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→ Externally headed RC, whether pre- or post-nominal, contrast as a class with internally headed RCs in which the head noun occurs within the RC. Consider the examples from Diegueño ((3a); Keenan 1985:162) and Quechua ((3b); Cole 1987:279).

- (3) a. [tənay [ʔəwa:ø]_{HN} ʔəwu:w-pu-L^y]_{RC} ʔciyawx
 yesterday house-DO 1.SG.saw-DEF-in 1SG.FUT.sing
 ‘I will sing in the house that I saw yesterday.’
- b. [nuna [bestya-ta]_{HN} ranti-shaq-n]_{RC} alli bestya-m ka-rqo-n
 man horse-ACC buy-PERF-3 good horse-EVID be-PAST-3
 ‘The horse that the man bought was a good horse.’

→ In both cases, the head noun is clearly a constituent of the RC. Note that in (3a) the adverbial *tənay* scopes over the RC predicate, not the main clause predicate.

→ The above examples also illustrate a difference w.r.t. the use of relative pronouns. According to Keenan (1985), RPROs are limited to post-nominal RCs (1), where they typically occur leftmost in the RC, and they are never observed in head-internal RCs (3).

→ RPROs are commonly related to determiners, demonstratives, or interrogatives. For instance, the English RPRO (1a) is identical to an interrogative pronoun while the German RPRO (1b) is identical to a definite article

→ Besides relative pronouns, some languages use relative complementizers. This is illustrated in (4) from Zurich Swiss German, in which the RC is introduced by the (relative) complementizer *wo* (Salzmann 2006:321); also note the use of the resumptive pronoun *em* (‘him’).

- (4) [[de Bueb]_{HN}, [wo mer em es Velo versproche händ]_{RC}]
 the boy COMP we him a bike promised have.1PL
 ‘the boy we promised a bike’

→ A final distinction to be made is the distinction between restrictive and appositive RCs where the former pick a candidate from a set (5a) while the latter do not function to constrain the domain of relativization (5b).

- (5) a. [[**The book**]_{HN} [that I read last week]_{RC}] was a bit disappointing
 b. [[**My mother**]_{HN} [who just came back from Ibiza]_{RC}] has a beautiful suntan

→ Keenan (1985) points out that the syntax of non-restrictive RCs in a language is largely similar to that of restrictive RCs, except some small differences (e.g. ban on certain RPROs, comma intonation).

3 Relative clauses in Italian Sign Language (LIS)

3.1 Basic properties

→ The basic word order of LIS is SOV, with functional elements such as aspectual markers, modals, and negation as well as *wh*-signs following the verb.

→ LIS signers make use of a specialized syntactic structure for relativization, a bi-clausal structure with the RC in sentence-initial position followed by the main clause. The RC (labeled “PE-clause” by Branchini & Donati (in press)) cannot be produced in isolation.

4 Relative clauses in German Sign Language (DGS)

4.1 Basic properties

- Just as in LIS, the basic word order in DGS is SOV, with functional elements and wh-signs following the verb. Still, DGS RCs are different in almost every respect.
- In DGS, RCs follow the head noun and are introduced by a RPRO (see section 4.2 for details). Again, we illustrate different grammatical functions of the head noun within the main and the RC-clause.
- In (16a), MAN is subject of main clause and RC; in (16b), GIRL is object of main clause and RC; in (16c), POSS₂ FRIEND is subject of the main clause but object of the RC clause.

- (16) a. TOMORROW [MAN (INDEX_{3a}) ^{rel}[RPRO_{3a} TIE BUY]] CONFERENCE_{3b} GO-TO_{3b}
 ‘Tomorrow the man who is buying a tie will go to a conference.’
- b. MONDAY INDEX₁ [GIRL (INDEX₃) ^{rel}[RPRO₃ INDEX₂ LIKE ₂PAM₃]] ₁VISIT₃
 ‘On Monday, I will visit the girl who you like.’
- c. [POSS₂ FRIEND (INDEX₃) ^{rel}[RPRO₃ INDEX₁ PARTY MEET]] EAT A-LOT
 ‘Your friend whom I met at the party eats a lot.’

- In DGS, the non-manual marker ‘rel’ consists of raised eyebrows (similar to topic marking) and a slight body lean towards the location of RPRO. Note that in (16), the non-manual marker only accompanies RPRO. Optionally, it may spread over the entire RC, as in (17a) from Happ & Vorköper (2006:483).

- (17) a. YESTERDAY CITY INDEX_{3a} INDEX₁ [MAN ^{rel}[RPRO_{3a} SIGN COURSE_{3b} VISIT_{3b}]] MEET
 ‘Yesterday I met the man in the city who is attending the sign language course.’
- b. * [POSS₂ FRIEND (INDEX₃) ^{rel}[RPRO₃ INDEX₁ INDEX₃ PARTY MEET]] A-LOT EAT
 ‘Your friend whom I met at the party eats a lot.’

- In contrast to the LIS examples in (6ab), the adverbial preceding the head noun in (16ab) scopes over the matrix predicate not the RC-predicate.
- Also in contrast to LIS, the head noun cannot be doubled in the main clause by means of a (resumptive) indexical sign, as is illustrated in (17b) above.
- Finally, Happ & Vorköper (2006:487) report a difference between restrictive and appositive RCs. Appositive RCs are not introduced by RPRO and are accompanied by a different non-manual marker (‘app’: pursed lips, slight headnod), as in (18).

- (18) EIGHTEEN CENTURY EIGHT NINETY, EIFFELTOWER, [INDEX₂ KNOW PARIS IX₃], BUILD ^{app}
 ‘In 1889, the Eiffeltower, which is in Paris, was built/completed.’

- Further research is needed to determine whether the pattern in (18) is generally observed with appositive RCs or whether it is possibly restricted to non-modifiable states. Actually, (18) resembles a parenthetical; note the presence of the verb KNOW.

4.2 Properties of RPRO

→ In all of the above examples, the head noun is [+human]. Actually, DGS has two different RPROs, one for entities referring to humans (RPRO-H), which has the classifier handshape for humans, and one for entities referring to non-humans (RPRO-NH), which is identical to the pointing sign used for personal and demonstrative pronouns (see figure 2 below).

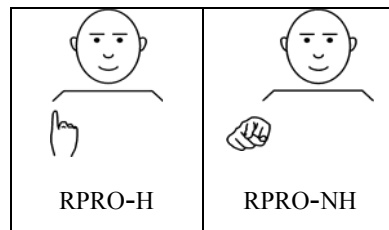


Figure 2: DGS relative pronouns

→ Both RPROs target a position in the signing space referring to the head noun. When the RC occupies the base position adjacent to the head noun (as in (16)), INDEX and RPRO are usually collapsed into one, especially with [-human] head nouns (19), i.e. RPRO can introduce a location for the head noun.

- (19) a. $\overset{\text{rel}}{\text{[BOY [RPRO-H}_{3a} \text{ CAT STROKE] POSS}_1 \text{ BROTHER}}}$
 ‘The boy who is stroking the cat is my brother.’
- b. $\overset{\text{rel}}{\text{[BOOK [RPRO-NH}_{3a} \text{ POSS}_1 \text{ FATHER READ]] INTERESTING}}}$
 ‘The book that my father is reading is interesting.’

4.3 Position of the RC

→ In all of the above examples and in (20a) below, the RC appears right adjacent to the head noun. This, however, is not the only option for RC placement in DGS.

→ First of all, DGS RCs can occur sentence-initially. Topicalization affects the whole noun phrase containing the RC; head noun and RC receive non-manual topic marking (20b). Topicalization of the RC without the head noun is ungrammatical (20c).

- (20) a. $\overset{\text{rel}}{\text{INDEX}_1 \text{ [BOOK [RPRO-NH}_3 \text{ POSS}_1 \text{ FATHER READ]] BUY}}}$
 ‘I bought the book that my father is reading.’
- b. $\overset{\text{top}}{\text{[BOOK [RPRO-NH}_3 \text{ POSS}_1 \text{ FATHER READ]] INDEX}_1 \text{ BUY}}}$
 ‘The book that my father is reading, I bought (it).’
- c. * $\overset{\text{top}}{\text{[RPRO-NH}_3 \text{ POSS}_1 \text{ FATHER READ] INDEX}_1 \text{ BOOK BUY}}}$

→ Moreover, DGS RCs are commonly extraposed to sentence-final position (21a). Unlike topicalization, extraposition affects only the RC, as is illustrated by the ungrammaticality of (21b).

→ With extraposed RCs, both the INDEX accompanying the head noun and the RPRO are usually used (21a). Note that some native signers prefer topicalization to extraposition.

- (21) a. INDEX₁ [BOOK INDEX₃] BUY [RPRO-NH₃ POSS₁ FATHER READ]
 ‘I bought the book that my father is reading.’
 _____ rel
- b. * INDEX₁ BUY [BOOK [RPRO-NH₃ POSS₁ FATHER READ]]
 _____ rel

→ In (20) and (21), the head noun is object of matrix clause and RC. However, the above observations also hold for other grammatical functions of the head noun.
 → Note that, just as in LIS, subordinate clauses in DGS are obligatorily extraposed, as shown by the ungrammaticality of (22a).

- (22) a. * INDEX₃ [INDEX₂ 2HELP₃ MUST] SAY
 b. INDEX₃ SAY [INDEX₂ 2HELP₃ MUST]
 ‘He says that you must help him.’

4.4 The typological picture

→ Based on the above evidence, Pfau & Steinbach (2005) argue that DGS, just like spoken German (1b), has post-nominal externally headed RCs that are introduced by a RPRO and that RPRO agrees with the head noun with respect to [\pm human].
 → Extraposition of the RC is possible and actually quite common. Again, this pattern is reminiscent of the one found in spoken German, where RCs are frequently extraposed, as can be seen in the embedded clauses in (23).

- (23) a. weil ich [das Buch [das mein Vater liest]] gekauft habe
 because I the book RPRO my father reads buy.PART have.1SG
- b. weil ich [das Buch] gekauft habe [das mein Vater liest]
 because I the book buy.PART have.1SG RPRO my father reads
 ‘... because I have bought the book that my father is reading.’

→ Pfau & Steinbach (2005) show that extraposition of the RC to sentence-final position is less constrained in DGS than in German. They relate this to the fact that in DGS, the RPRO always unambiguously identifies the head noun.
 → Moreover, in German, extraposition of a RC modifying a subject is blocked even if the morphosyntactic specification (gender agreement) of RPRO unambiguously identifies the head noun; compare (24a) with (24b).

- (24) a. WOMAN INDEX_{3a} MAN INDEX_{3b} LIKE PAM_{3b} [RPRO-H_{3a} CAT STROKE]
 ‘The woman_i likes the man who_i is stroking the cat.’
 _____ rel
- b. * Die Frau mag den Mann, die die Katze streichelt
 the woman likes the man RPRO.F the cat strokes
 ‘The woman_i likes the man who_i is stroking the cat.’

→ An issue that we hope to address in future research are possible syntactic and prosodic differences between restrictive and appositive RCs in DGS. Given examples like (18), one may expect to find typologically remarkable patterns in this area.

5 Other sign languages

- According to Liddell (1978, 1980) American Sign Language (ASL) displays both internally and externally headed RCs (see Fontana (1990) for comparison to Diegueño; see Coulter (1983) for a conjunction analysis).
- In (25a), the non-manual marker ('r': brow raise, backward head tilt, upper lip raised) extends over the head noun DOG and the adverbial preceding the head noun scopes over the embedded predicate (Liddell 1980:148) – cf. the LIS examples (6ab).
- Optionally, the RC contains the sign THAT_a, very similar to a demonstrative, that marks the clause as subordinate (labelled “relative conjunction” by Liddell). THAT_a appears either adjacent to the head noun (25a) or in sentence-initial position (25b) (Liddell 1980:159).

- (25) a. $\frac{\text{RECENTLY DOG (THAT}_a\text{) CHASE CAT}}{\text{r}}$ COME HOME
 ‘The dog which recently chased the cat came home.’
 ‘The cat which the dog recently chased came home.’
- b. $\frac{\text{THAT}_a \text{ CHASE CAT DOG RUN-AWAY}}{\text{r}}$
 ‘The dog that chased the cat ran away’

- In contrast, in externally headed RCs, the non-manual marker extends only over the RC but not over the head noun, as shown in (26) (Liddell 1980:162). Note that Quechua, e.g., also allows for externally and internally headed RCs (Cole 1987; Basilico 1996).
- ASL RCs are strongly preferred in sentence-initial position. In sentence-final position, they are followed by an affirmative nod and/or by the sign THAT (26b) (Liddell 1980:147).

- (26) a. $\frac{\text{ASK}_3 \text{ GIVE}_1 \text{ [DOG [URSULA KICK] THAT}_c\text{]}}{\text{r}}$
 ‘I asked him/her to give me the dog that Ursula kicked’
- b. $\frac{\text{INDEX}_1 \text{ FEED [[DOG BITE CAT THAT}_b\text{] THAT}_c\text{]}}{\text{r}}$
 ‘I fed the cat that the dog bit’

- Finally, according to Liddell, both externally- and internally headed RCs receive a restrictive interpretation.
- In sum, ASL partially overlaps with LIS w.r.t. to the use of internally headed RCs which preferably occupy a sentence-initial position. In contrast to ASL, however, in LIS the use of a determiner-like element (PE) which occupies a RC-final position is obligatory (the different position of the determiner-like element in LIS and ASL is probably due to their different linear order, SOV and SVO, respectively).
- As opposed to ASL and LIS, Brazilian Sign Language (LSB) has head-external RCs without a RPRO/complementizer. The RC in (27a) corresponds to reduced RCs in English (Nunes & de Quadros 2004). Besides, LSB also has head-internal RCs similar to those described for ASL and LIS above (de Quadros, personal communication).

- (27) a. GIRL [FALL BICYCLE] STAY HOSPITAL
 ‘The girl that fell off from the bicycle is in hospital.’
 $\frac{\text{brows up \& head tilt}}{\text{r}}$
- b. $\frac{\text{[[BOOK^THERE] [INDEX}_3 \text{ WRITE]] INTERESTING}}{\text{r}}$
 ‘The book he wrote is interesting.’

- Sandler (1999:206) gives one example of a RC in Israeli Sign Language (ISL). Based on the non-manual markings (very much simplified in (27b)), we can tentatively conclude that, just as in LIS, one relativization strategy in ISL are internally headed RCs.
- As far as the relativization strategy is concerned. LSB seems to pattern with DGS while ISL is closer to LIS/ASL. Of all the SLs, DGS is the only one that makes use of a relative pronoun.

6 Conclusion

- A typological comparison of LIS and DGS in the syntactic domain of relativization shows that the two SLs make use of different relativization strategies. Both strategies fit well into the typological pattern identified for oral languages.
- LIS makes use of nominal head-internal RCs that contain the clause-final determiner-like element PE. The RC typically appears sentence-initially but can also be extraposed to sentence-final position.
- In contrast, DGS has post-nominal externally headed RCs that are introduced by a relative pronoun. RCs either appear adjacent to the head noun (i.e. in their base position) or are extraposed to sentence-final position.
- Clearly, the pattern found in DGS relativization is more similar to the German pattern than it is to the LIS pattern – contra the Variation Hypothesis. In the domain of relativization, SLs exhibit the same diversity as oral languages.
- In LIS and DGS, as well as in the SLs mentioned in section 5, non-manual markers play a crucial role in relativization. Specific characteristics of these markers may shed light on the syntax of relative constructions in SLs.
- Note that we take it to be no coincidence that the marker ‘rel’ is quite similar to topic marking. Cross-linguistically, RCs are known to share interesting properties with topic constructions (Lewkowicz 1971; Schachter 1973; Wilbur & Patschke 1999).

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