

Reconstruction phenomena in Chinese relative clauses: Even gapless relatives involve a gap!

So-called gapless relative clause (GRCs) constructions are observed crosslinguistically (see 1 in French) but are especially described and investigated in the formal tradition for East Asian languages. They are characterized by not presenting any element syntactically and semantically shared between the adnominal and the matrix clause, namely a *gap*.

(1) Vous avez une figure que vous devez avoir de la température.

(Lit.) You have a figure that you must have a temperature.

In Mandarin Chinese, all clausal nominal modifications, including GRCs (2), regular Relatives Clauses (RRCs) (3) and Complement clauses (CCs) of nouns (4) share superficially the same syntactic form, which is that of a prenominal modifying clause, followed by the linker *de* and the modified NP.

(2) a. [Lili changge] de [NPshengyin]

Lili sing DE voice

(Lit.) the voice that Lili sings

b. [Lili mai fangzi] de [NPyusuan]

Lili buy house DE budget

(Lit.) the budget that Lili buys a house

(3) [Lili chang ti] de [NPgei]

Lili sing DE song

(Lit.) the song that Lili sang

(4) [zongtong yao cizhi] de [NPchuanwen]

president will resign DE rumor

(Lit.) the rumor that the president will resign

This uniformity hinders a real understanding of the syntactic structure of GRCs and their status within the typology of relativization and more generally noun modification strategies. More than four types of analyses were proposed in the literature: GRCs involve a gap of a special kind (Ning 1993, Tsai 1997, Creissels 2019); some GRCs involve a gap but not others (Cheng & Sybesma 2005); they are CCs (Huang et al. 2000); they are reduced RRs (Zhang 2014).

Chasing the gap by testing reconstruction: two experiments

The main controversy concerning GRCs is whether they involve a hidden gap, like RRCs do, or whether they do not involve a gap, like CCs. In order to contribute to this debate, we decided to test whether GRCs show reconstruction effects of the head noun, as would be predicted if there is a gap corresponding to the head within the clause (Sportiche 2017).

A preliminary study that we conducted on GRCs (Author 2019) led us to conclude that they do not constitute a natural class with respect to a number of properties such as stackability or compatibility with a RRC. For this reason, we tested reconstruction effects in two types of GRCs: GRCs introduced by a noun of perception, like (2a), which are the most distant from RRCs, and GRCs involving a concrete adjunct, like (2b), which are more similar to RRCs.

The main idea was to test the presence of reconstruction of the modified NP via Condition C effects in an acceptability rating task. Since the presence and strength of Condition C effects in RCs are also controversial (Lebeaux 1984; Sauerland 2000), we also included RRCs as a control. To illustrate, in a sentence like *The song of Lili that she sings*, if the head NP of the RRC reconstructs in the position of the gap, coreferentiality between the pronoun *she* and the proper noun *Lili* should yield a Condition C violation, and the sentence should be judged unacceptable. If the modified NP of GRCs of the two types reconstructs the same way, we expect coreference to be judged worse than lack of coreference. If on the other hand GRCs do not involve a gap and thus the modified NP does not reconstruct, we expect no such effect of Condition C violation to be visible.

Material and participants

We set up two experiments, one with “perception” GRCs and one with “adjunct” GRCs. Each experiment included 24 items and 4 conditions (2x2): GRCs or RRCs, with or without a coreference like the one described above. For these two interpretations, we manipulated the context sentence in order to force or avoid a coreference reading, keeping the sentence to be graded constant, as illustrated in the table below. We also included 24 fillers, 12 grammatical and 12 ungrammatical.

Condition	Item	Context (translation)
GRCs with coreference	Xiaogang hen xihuan [ta changge de [na-zhong Lili de shengyin]] (Lit.) X. likes this voice of L. that she sings.	Xiaogang is listening to Lili singing alone.
GRCs without coreference		When Nana sings, her voice is very similar to Lili's.
RRCs with coreference	Xiaogang hen xihuan [ta yizhi yongyou de [na-zhong Lili de shengyin]] (Lit.) X. likes this voice of L. that she always has.	Xiaogang is listening to Lili singing alone.
RRCs without coreference		Nana's voice is very similar to that of Lily, who is Xiaogang's sister.

Both experiments were set on IbexFarm platform (Drummond 2013). Participants would first see a context, and were then asked to judge each item given the context on a scale from 1 to 7. Each participant saw only one condition for each item. We recruited 114 and 109 participants respectively for the two experiments on the Chinese social media Wechat. 34 participants were excluded on the basis of how they rated the fillers.

Results and discussion

We used a mixed model which provided the following results (Figures 1-2): a general preference for RRCs over GRCs; a general preference for items without coreference reading; the difference between the coreferential interpretation and the no-coreferential is more important in the concrete adjunct experiment than in the perception noun experiment; GRCs without coreference are significantly more acceptable than GRCs with coreference ($p < 5.67e-06$ *** in the GRC-perception experiment and $p < 3.21e-09$ *** in the GRC-concrete and adjunct experiment); RRCs with or without coreference behave in the same way ($p < 2.33e-09$ *** in the first experiment and $p < 6.73e-16$ *** in the second one).

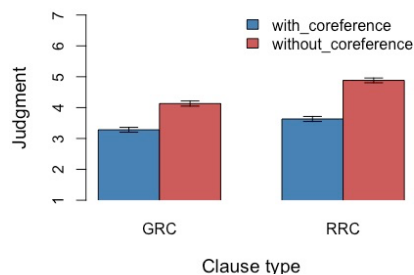


Figure 1 GRC-perception

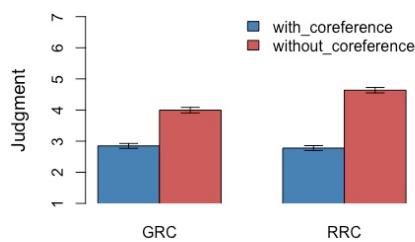


Figure 2 GRC-concrete adjunct

These results strongly suggest that there is a gap in so-called gapless RCs, and that the modified NP reconstructs in a position internal to the adnominal clause. They allow us to discriminate among available analyses of these constructions. Any analysis not positing a gap (Huang et al. 2000, Zhang 2014) is to be excluded. We shall discuss various alternatives and point to possible extensions to Romance GRs of the type in (1).

Selected references: •Creissels, D. (2019). Remarks on the typology of noun-modifying clause constructions. In *International Symposium on Complex Sentences*. Wuhan: Central China Normal University. •Ning, C. (1993). The overt syntax of relativization and topicalization in Chinese. Ph. D. Dissertation, University of California, Irvine. •Sauerland, U. (2000). *Obligatory reconstruction and the meaning of traces*. Univ., Sonderforschungsbereich 340. •Zhang, A. (2014). Mandarin gapless relative clauses as reduced relative clauses. *The 15th Texas Linguistic Society*: 215-230.