

ALMOST EVERYTHING IS RELATIVE IN THE CAUCASUS

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The syntax-semantics puzzle. Languages standardly distinguish between headed and free/headless relative clauses, yes/no and wh- embedded interrogative clauses, and embedded declarative clauses (aka complement clauses), both at the syntactic and semantic level. Their main differences are summarized below:

	headed relatives	free/headless relatives	embedded wh- interr.	embedded yes/no interr.	embedded declaratives
gap	✓	✓	✓	✗	✗
island	✓	✓	✓	✓	✗
denotation	a set of individuals	an individual	a set of many propositions	a set of at most two propositions	a proposition

In previous work, we have shown that Adyghe (a Northwest Caucasian language spoken in the south of Russia and in Turkey) does not follow this cross-linguistic pattern, using the very same syntactic construction in for all the types above (2)-(6) (see also Gerasimov & Lander 2007). We have argued that this construction is a relative clause without a relative pronoun or resumption (see also Lander 2004). The prefix *zə* on the verb (glossed as WH) signals the presence of a gap in a core argument position receiving a case different from absolutive (2)-(6). If the gap is not a core argument, a varying lower applicative marker signals the nature of the missing constituent (cf. no applicative in (4)-(6) vs. the applicatives *-re-* in (2)-(3)). The clause ends with a determiner (DET: *-r* in the absolutive or *-m* for other morphological cases) that is restricted to DPs and exhibits distributional properties of DPs. Extraction out of any of the clauses in (2)-(6) is not allowed. The same pattern is found in related languages (Abaza: O’Herin 2002: ch. 8; Kabardian: Colarusso 1992: 186-199; also Keraševa 1984, Smeets 1984, Rogava & Keraševa 1966: 397-402).

- (1) š’ale-m mə mašine-r a-q_wəta-ɸ
 boy-ERG(ative) this car-DET.ABS(olutive) 3SG.ERG-break-PAST
 ‘The boy broke this car.’ (BASELINE: **Declarative main clause**)
- (2) [DP [š’alem mə mašiner zə-re-mə-q_wəta-ɸ]-er] jəg_w rjəhəɸ
 boy.ERG this car.ABS WH-APPL(ICATIVE)-NEG-break-PAST-DET.ABS heart carried
 ‘He was hoping that that the boy did not break this car.’ (**Embedded declarative clause**)
- (3) [DP [š’alem mə mašiner zə-re-q_wəta-ɸ]-er] a-qeɸežak
 boy.ERG this car.ABS WH-APPL-break-PAST-DET.ABS 3SG.ERG-asked
 ‘S/he asked if the boy broke this car.’ (**Embedded yes/no interrogative clause**)
- (4) [DP [mə mašiner zə-q_wəta-ɸ]-er] s-š’er-ep
 this car.ABS WH.ERG-break-PAST-DET.ABS 1SG-know-NEG
 ‘I don’t know who broke this car.’ (**Embedded wh- interrogative clause**)
- (5) [DP [kjətajə-bze zə-š’e-r]-əm] sə-λeχ_we
 Chinese-languageWH.ERG-know-PRES-OBL(ique) 1SG-look.PRES
 ‘I am looking for those/one who know Chinese.’ (**Headless relative clause**)
- (6) [DP [kjətajə-bze zə-š’e] cəfər-əm] sə-λeχ_we
 Chinese-languageWH.ERG-know.PRES person-OBL 1SG-look.PRES
 ‘I am looking for a/the person that knows Chinese.’ (**Headed relative clause**)

If all the embedded constructions in (2)-(6) are relative clauses, the semantic challenge is to build a principled mapping between the invariable syntactic structure and the five different meanings that it can convey. This is the puzzle we focus on in this paper.

Proposal. The first step of the semantic derivation of each of the five constructions in (2)-(6) is the same: a set is formed by lambda-abstracting over the variable in the gap position, as is standard for relative clauses. The differences emerge in the steps that follow.

2.1. Variables over individuals. If the variable ranges over individuals (as with core argument gaps and a subset of applied object gaps), then the result of lambda-abstracting is a set of individuals, and three options are possible. **(i)** If a nominal head is present (6), then the relative clause combines with its head by means of standard intersection/predicate modification (Quine 1960; Montague 1973). **(ii)** If no nominal head is present and the relative clause occurs as the argument of a predicate selecting an individual-denoting expression (5), then a type-shifting operation applies to the set of individuals and returns the unique (maximal) individual (as independently proposed in Partee 1987, Chierchia 1998, and Dayal 2004 for nominals, and in Jacobson 1995 and Caponigro 2004 for free relatives). **(iii)** If the relative clause occurs as the complement of an interrogative predicate, we argue that the relative is first interpreted as an individual via type-shifting (as in (ii) above) and then a further step applies in order to solve the type mismatch with the predicate, which selects for a question (i.e., a set of propositions). This is a concealed question interpretation of the individual-denoting relative clause, which is attested with regular DPs in Adyghe (7a-b) and has been independently argued for for DPs in other languages (Heim 1979, Nathan 2006, Frana to appear, Romero to appear).

- (7) a. mə_wəxt-ər s-š'er-ep
 this time-DET.ABS 1SG-know-NEG
 'I do not know the time.'
- b. ʃ_wəg_wə-r qə-sə-a-ʔ_wətežer-ep
 road-DET.ABS INV-1SG-3PL-retell-NEG
 'They would not tell me the road (how to get there).'

2.2. Variables over worlds. Unlike the previous cases, the relative clauses in (2) (“declarative” interpretation) and (3) (“yes/no-interrogative” interpretation) do not have an obvious gap/variable. We propose that they contain a variable that ranges over worlds and is signaled by the applicative marker *-re-* (which occurs only in these two cases and attaches higher on the verb than any other applicative marker). That worlds can be syntactically represented has been independently argued for (e.g. Groenendijk & Stokhof 1984; Cresswell 1990; Percus 2000). Two options are available. **(i)** Usual lambda-abstractation, but now over a world variable, produces a set of worlds, i.e. a proposition. This is the denotation required by a predicate like *hope*, which selects for a declarative complement (i.e. a proposition), and therefore no other step is needed (2). **(ii)** If a proposition-denoting relative clause occurs as the complement of an interrogative predicate like *ask*, which selects for an interrogative complement (i.e. a set of propositions), a standard interrogative operator (licensed by the interrogative predicate) applies to the proposition *p* and returns the set {*p*, ¬*p*}.

Conclusions. Adyghe shows that embedded propositions or sets of propositions do not have to be syntactically realized by clausal complements (which this language lacks completely), but can be expressed by relative clauses from which the various interpretations are derived by means of independently attested semantic mechanisms. Furthermore, if our analysis is on the right track, Adyghe brings further evidence in support of the hypothesis that worlds can be syntactically represented.

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