

An Unmediated Analysis of Relative Clauses

Yehuda N. Falk, The Hebrew University of Jerusalem

The standard view of (restrictive) relative clause constructions is that they consist of three parts: the head, the relative pronoun, and the clause.

- (1) the word processor which Bill prefers *e*
 head relative pronoun clause

This view, standard both in P&P and in LFG, holds the relative pronoun to be the central component of this construction, as it serves to link the other two elements of the construction. The relation between the head and in-clause function is indirect, mediated anaphorically by the relative pronoun. I will refer to this as the mediated analysis of relative clauses. From the perspective of this analysis, it is very odd that there is an alternative form for relative clauses in English, one in which there is no relative pronoun:

- (2) the word processor (that)Bill prefers *e*
 head clause

The existence of this kind of relative clause suggests a direct relation between the head and the in-clause position, an unmediated analysis. An unmediated analysis of relative clauses has appeared from time to time in the transformational literature under the name “raising analysis” (e.g. Schachter 1973, Vergnaud 1974, Kayne 1994). This paper argues for an unmediated analysis in the context of LFG.

Under the LFG conception, long-distance dependency (or *wh*) constructions are constructions in which one element has (at least) two grammatical functions in potentially distant clauses. Given that the element in question has multiple grammatical functions, it could potentially be realized in the position of either function. The choice between the two options for realization give rise to the distinction between “ex-situ *wh*” and “in-situ *wh*”. In the realm of relative clauses, the choice is between an externally-headed relative clause construction (EHRC), the equivalent of the ex-situ construction (as in English), and an internally-headed relative clause construction (IHRC), the equivalent of the in-situ construction (illustrated in (3)).

- (3) a. Mooré (Culy 1990: 76)
 [Yāmb sēn yā dao ninga zamē wā] bee ka.
 2PL AUX saw man INDEF yesterday DEF be there
 ‘The man that you saw yesterday is here.’
 b. Imbabura Quechua (Cole 1982: 49)
 [Wambra wagra- ta randi- shka] ali wagra- mi.
 boy cow- ACC buy- NMNL good cow- FOC
 ‘The cow which the boy bought is a good cow.’

In an IHRC, the relativized element occupies the canonical position of its in-clause function, and the external “head” position is merely a determiner or nominal inflection appended to the relative clause. Comparing the EHRC and IHRC constructions, we see that the relativized element functions both as the head of the construction and as the in-clause element. There is no evidence of a relative pronoun in the IHRC construction. There are no in-situ relative clause constructions in which the relativized element occupies the external head position and a *wh* element (relative pronoun) occupies the in-clause position. The IHRC construction thus provides evidence for an unmediated analysis.

Another typological argument for the unmediated analysis is the cross-linguistic distribution of EHRC constructions: those with relative pronouns and those without. The mediated analysis suggests that constructions with relative pronouns should be common and those without (missing, as they do, the linchpin of the entire construction) should be relatively rare. The facts do not back this up: Maxwell (1979) shows, based on the 49 languages in the database of Keenan and Comrie (1979), that languages with pronoun-less relative clause constructions are quite common. In some languages, such as Toba Batak and Japanese, these are the only kind of relative clause, while in others, such as Spanish and Czech (and English), relative-pronoun relatives also exist. The widespread distribution of relative-pronoun-less relative clause constructions argues for an unmediated analysis.

An argument originally due to Schachter (1973) relates to idiom chunks (examples from Hulsey and Sauerland 2006):

- (4) a. Mary praised the headway that John made.
 b. I was shocked by the advantage that she took of her mother.

The idiom chunks *headway* and *advantage* are licensed by being arguments of *make* and *take* respectively. However, in these examples, they are only arguments of the correct verbs under the unmediated analysis. Under the mediated analysis, the relative pronoun, functionally an element distinct from *headway/advantage*, is an argument of the idiomatic verb, while the idiom chunks are arguments of the main verbs. The mediated analysis thus predicts that these should be ungrammatical; it is only under the unmediated analysis that we have an account of their grammaticality. On the other hand, a

transformational implementation of the unmediated analysis (a.k.a. the raising analysis) also fails, because it is also possible for the licensing verb to be in the main clause:

(5) Mary never made the headway that had been expected of her.

An LFG implementation of the unmediated analysis can account for both kinds of idiom-chunk examples, and is thus superior both to a mediated analysis (which can only account for (5)) and to a “raising”-type implementation of the unmediated analysis (which can only account for (4)).

The paper then proceeds to work out the details of an unmediated analysis in LFG, drawing on both EHRCs and IHRCs. It emerges from a careful consideration that the relativized element is not feature-identical in the two functions: the two functions differ in the features CASE and DEF. The following illustrates this for DEF: the head (or rather the larger NP, the OBJ of ‘buy’) is definite, while the in-clause function (OBJ of ‘make’) is indefinite.

(6) Lakhota (Williamson 1987: 171)

Mary owiža wą kaḡe ki he ophewathu.
 Mary quilt a make the DEM I.buy
 ‘I bought the quilt that Mary made.’

The equations licensing the relative clause constructions thus need to use the restriction operator (Kaplan and Wedekind 1993). For English, approximately:

(7) NP → NP CP
 $\uparrow = \downarrow$ $\downarrow \in (\uparrow \text{ ADJ})$
 $(\downarrow \text{ OPER}) / \text{DEF} / \text{CASE} = \uparrow / \text{DEF} / \text{CASE}$

An “operator” function OPER is hypothesized here as a formal device (providing a specific function in the relative clause that the larger NP can be related to), but it is simply part of the “chain” of linked functions, not a distinct functional element. It transpires that this operator plays a role in allowing relative clauses with relative pronouns.

Under an unmediated analysis, the existence of relative clauses with relative pronouns initially looks as mysterious as the relative clause without relative pronouns looks under the mediated analysis. The evidence shows that even relative clauses with relative pronouns involve an unmediated analysis. For example, idiom chunks show the same behavior.

(8) Mary praised the headway which John made.

An examination of the distribution of relative pronouns in a variety of language, including in infinitival relative clauses in English, reveals that the primary purpose of such relative clauses is to allow pied-piping: constructions in which the operator is only part of the topic of the relative clause.

- (9) a. a word processor [to mangle the text] /*[which to mangle the text]
 b. a word processor [to hate with a passion] /*[which to hate with a passion]
 c. a word processor [to crash the computer with] /*[which to crash the computer with]
 d. a word processor [with which to crash the computer]

The use of a relative pronoun allows the relative clause to have an element with the function TOPIC (in specifier of CP position), an element which contains the relativized element (the relative operator). It is an extension of the functional equations already in place for *wh* questions (see, e.g., Falk 2001), under which an element in the specifier position of CP bears a grammaticized discourse function and contains (or is) an OPER. Here, the existence of those functional equations is exploited, along with the OPER in relative clauses, to allow greater flexibility.

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