

Transparent free relatives

Carla Schelfhout, Peter-Arno Coppen & Nelleke Oostdijk

This paper describes the transparent free relative construction as a variant of the free relative construction. Four analyses are described, viz. the backward deletion analysis, the shared structure analysis, the standard analysis and the parenthetical analysis. It is demonstrated that of these analyses the parenthetical analysis is the superior one.

1. Introduction

Relative clauses can be divided into two classes: *dependent* relative clauses and *independent* relative clauses. The latter are also known as *nominal* or *free* relative clauses. Dependent relative clauses depend on a certain referent in the clause, which is referred to by the relative pronoun, as exemplified in (1a). Independent relative clauses do not have a referent in the clause and behave as nominal expressions, as exemplified in (1b).

- (1) a. The things that you see *belong* to me.
b. What you see *belongs* to me.

As we see, the finite verb in (1a) shows number agreement with the referent, whereas the finite verb in (1b) has singular number. Apparently, free relatives are syntactically singular, independent of what they refer to. This, however, is not always true; cf. example (2):

- (2) What seem to be pebbles *are* strewn across the lawn.

In this sentence, we have a free relative clause which shows plural number agreement. This construction was called *transparent* free relative by Wilder (1999) and derives its name from the fact that the relative clause seems transparent with respect to the plurality of *pebbles*.

We will discuss transparent free relatives in both English and Dutch, under the assumption that these constructions are comparable. We will first take a

closer look at the characteristics of transparent free relatives, then discuss previous analyses and finally present an alternative analysis.

2. Transparent free relatives

Transparent free relatives differ from standard free relatives in the following respects:

A. Number. As discussed in section 1, free relatives always have singular number,¹ whereas the number of transparent free relatives may vary:

- (3) a. What you ordered *was*/**were* delivered a minute ago.
 b. What John calls pebbles *are* lying on the lawn.
 c. What John calls a banjo *is* lying on his desk.

B. Definiteness. Standard free relatives are definite, whereas the definiteness of transparent free relatives may vary. Definiteness can be checked by placing the free relative at an indefinites-only position, e.g. the existential construction *there is something somewhere*, where *something* can only be indefinite.²

- (4) a. * There is what you ordered on your desk.
 b. There is what John might call a banjo on his desk.
 c. * There is what John might call his banjo on his desk.

C. Reference. Standard free relatives cannot refer to human beings, whereas transparent free relatives can.

- (5) a. # What I adore kisses me.
 b. What I could best describe as my idol kisses me.
 c. # What I could best describe as my school kisses me.

D. Island effects. Standard free relatives show island effects, whereas transparent free relatives do not.

- (6) a. John will deliver whatever you order him to.
 b. * **Who** will John deliver whatever you order e to?
 c. John is what you might call angry about something.
 d. **What** is John what you might call angry about e?

¹ There are two apparent exceptions on this rule: copulative or predicative constructions, in which the number of the predicate may decide on the number of the verb (*what you see is a beautiful girl* vs. *what you see are beautiful girls*), and cleft constructions (*Whatever (it is that) John calls pebbles are...*)

² Not to be confused with place adverbs, as in *On your desk, there is what you ordered*.

It can be observed that the number, definiteness and reference of the total transparent free relative is determined by the number, definiteness and reference of the right-peripheral XP in the transparent free relative, which we will pre-theoretically refer to as *content kernel*. For instance, *pebbles* and *a banjo* in (3b) are content kernels.

So far we have seen characteristics of transparent free relatives that differ from the characteristics of standard free relatives. When we take a closer look at constructions that showed these characteristics, we notice that they all have the following characteristics as well:

- whatever the nature of the content kernel, the relative can only be *what*; cf. (7a) to (7b):
- (7) a. ***What*** John might call *sweet children* are ruining my house.
 b. * ***Who*** John might call *sweet children* are ruining my house.
- The main verb requires a predicate; this can be seen as only constructions in which the verb requires a predicate can occur at indefinites-only positions:
- (8) a. There is *what* John might call *a banjo* on your desk.
 b. * There is *what* John painted *blue* on your desk.
- The content kernel can always replace the total transparent free relative.
- (9) a. There is *what* John might call *a banjo* on your desk.
 b. There is *a banjo* on your desk.
- (10)a. These are errors which John is *what* you might call *angry about*.
 b. These are errors which John is *angry about*.

It is clear that the content kernel plays a crucial role in a transparent free relative. The content kernel decides about number, definiteness and reference of the total construction; in fact it can always replace the total construction of. How is this possible? The next section discusses three analyses that have been offered in the literature.

3. Previous analyses of transparent free relatives

3.1 Wilder's analysis: parenthetical placement with backward deletion

Wilder (1999) proposes a parenthetical analysis for transparent free relatives in combination with deletion of one of two instances of the content kernel. Wilder's explanation consists of two steps: first, a complete relative clause (*what he took to be a banjo*) is parenthetically inserted into a matrix clause

(*John bought a banjo*), left adjacent to the element that it premodifies (*a banjo*). Next, the predicate in the relative clause (*a banjo*) is deleted under morpho-phonological identity with the right adjacent element(s) in the matrix clause. For this deletion Wilder uses a rule named Backward Deletion, which he developed in Wilder (1997) for Right Node Raising. This rule deletes one constituent under identity with a second one. Wilder's analysis looks as follows:

(11) John bought [_{par} what he took to be ~~a banjo~~] a banjo.

Wilder argues that the content kernel must be in the matrix clause, as this appears to be the most straightforward way to explain why this content kernel decides about number agreement and definiteness of the total construction. If the content kernel is in the main clause and the relative clause functions as a kind of premodifier to it, of course the number, definiteness and reference of the content kernel are decisive. However, this implies that the obligatory predicate role of the verb in the relative clause is either lacking or phonologically empty. In Wilder's view, it is phonologically deleted.

3.2 Van Riemsdijk's analysis: shared structures

In several papers (Van Riemsdijk 1998, 2000, 2001), Van Riemsdijk develops a notion of shared structures, in which constituents are shared by two different clauses. His examples include right node raising constructions, wh-prefixes and transparent free relatives. For these, Van Riemsdijk defends an analysis in which the content kernel is shared by the matrix clause and the relative clause, as exemplified below:

(12) John bought }
 what he took to be } a banjo

In the linearization of this structure the banjo has to be at one specific position only, but this one element is at two positions in the syntactic tree. This explains the behavior of transparent free relatives with respect to number, definiteness and island effects in the same way as Wilder defends it: by stating that the content kernel is in the main clause. The difference is in the explanation of the apparently empty predicate in the relative clause: whereas Wilder gives an analysis in which one instance of the content kernel, in the relative clause, gets deleted, Van Riemsdijk states that the same element is present in both clauses.³ Hence, in the present example *a banjo* is both the

³ One of Van Riemsdijk's arguments for this analysis is that it is also applicable to transparent free relatives that have the content kernel preceding the verb of the relative clause instead of being right peripheral to it. This variant does not exist in English, but it is present in Dutch and German, as exemplified below:

direct object of *bought* and the predicate of *took to be*, which implies that all argument roles are filled and that both clauses are syntactically correct.

3.3 Grosu's analysis: standard analysis

Grosu (2003) argues for the same analysis for standard and transparent free relatives. In his view, the word *what* is the head of the construction and the content kernel is in the relative clause, as illustrated below:

- (13)
- | | | |
|--|-----------------|--|
| | <i>features</i> | |
| | ┌───────────┐ | |
| | | |
| | └──────────┘ | |
- John bought [_{rel} what he took to be a banjo].

The fact that the total transparent free relative has the number characteristics and the syntactic category of the content kernel is the result of two characteristics of the word *what*: it is underspecified with respect to number and syntactic category and it is the head of a small clause (one of the definitional characteristics of transparent free relatives is that the main verb always takes a predicate). The word *what* originates in the small clause and receives its number and other features from the predicate under equation with it; it is then successively A-moved to the specifier position of the matrix clause. This explains the definitional characteristic of transparent free relatives that the relative always has to be *what*: other relatives are not underspecified for number or syntactic category and hence they cannot take the value of predicates in a small clause.

4. Discussion

4.1 Previous analyses

We will compare the previous analyses on the basis of the predictions they make with respect to the surface form and behavior of transparent free relatives. First, we consider the predictions with respect to island effects. It is widely accepted that a subordinate clause forms an island for extraction. This holds *a fortiori* for wh-clauses; however, extraction out of a content kernel seems possible, as evidenced by example (6), repeated here for convenience:

Hij is wat je mooi _____ noemt.
 He is what one beautiful calls
 'He is what one calls beautiful.'

In our view, these constructions are not comparable to the transparent free relatives we have described in section 1. These constructions can only be singular, do show island effects and behave exclusively nominally whereas we will see in section 4.2 that transparent free relatives show a wider distribution.

- (6) a. John will deliver whatever you order him to.
 b. * **Who** will John deliver whatever you order e to?
 c. John is what you might call *angry about something*.
 d. **What** is John what you might call angry about e?

The fact that extraction out of a content kernel is possible suggests that this kernel is not in the subordinate clause. This makes Grosu's standard analysis, in which the content kernel is in the subordinate clause, less attractive.

Next, we inspect the predictions with respect to the content kernel that the shared structure analysis and the backward deletion analysis make. A shared structure analysis assumes that the content kernel is acceptable in both the relative and the matrix clause; the backward deletion analysis is only applicable when there is morpho-phonological identity between the instances in the matrix clause and in the relative clause. Hence both theories imply that the phonological form of the content kernel should be acceptable for both the relative and the main clause. If there is a counter example, i.e. if there is a correct sentence with a content kernel that is only acceptable for either the main clause or the relative clause but not for both, these two analyses become less likely.

In fact, such a counterexample is found in the adjective in Dutch. Attributive adjectives in Dutch can be inflected depending on gender and number of the following noun, as illustrated in (14a). Predicative adjectives however, are never inflected, as is exemplified in (14b).

- (14)a. Dat is een mooig man.
 that is a beautiful man
 'He is a beautiful man.'
 b. wat je noemt mooi
 what one calls beautiful
 'what one calls beautiful'
 c. Dat is een wat je noemt mooig man.
 that is a what one calls beautiful man
 'He is what one calls a beautiful man.'

When we combine the main clause in (14a) with the relative clause in (14b), we obtain the transparent free relative construction in (14c). The adjective in the content kernel is inflected, which is ungrammatical in a predicative position, but the sentence is completely correct in Dutch. This cannot be explained by either the backward deletion analysis or the shared structure analysis.

4.2 An alternative analysis

In section 4.1 we have argued that the immunity of content kernels for island effects is a strong argument for an analysis in which the content kernel is in the matrix clause. The second argument for such an analysis is the fact that the

content kernel can be nominal, adjectival, adverbial, prepositional and in Dutch even verbal in nature and that the distribution of the total transparent free relative follows the distribution of the content kernel. Examples of the respective options are:

- (15)a. Er ligt wat John omschrijft als eenbanjo op mijnbureau.
 there lies what John describes as a banjo on my desk
 ‘There is what John describes as a banjo on my desk.’
- b. Die mannen zijn wat je noemt lelijk.
 these men are what one calls ugly
 ‘These men are what one calls ugly.’
- c. Jan heeft Piet wat CNN omschrijft als verpletterend verslagen.
 Jan has Piet what CNN describes as smashingly beaten
 ‘John beat Pete what CNN described as smashingly.’
- d. De overvaller schopte de winkelier wat de politie netjes omschreef als ‘tussen zijn benen.’
 the robber kicked the shopkeeper what the police decently described as between his legs
 ‘The robber kicked the shopkeeper what the police decently described as between his legs.’
- e. Nederland heeft Schotland wat je noemt verpletterd.
 Holland has Scotland what one calls smashed
 * ‘Holland what one calls crushed Scotland.’

This is unexpected under the standard analysis, which predicts that the transparent free relative only behaves nominally. It is fully understandable under the assumption that the content kernel is in the matrix clause, however.

We therefore propose to insert the transparent free relative, as it is, as a parenthetical clause into the matrix sentence:

- (16) John bought [_{par} what he took to be] a banjo.

There is no Backward deletion, hence no need for a morpho-phonological identity between a deleted element and the referent in the matrix clause. However, the parenthetical clause lacks a constituent that seems to be subcategorized by the verb.

This analysis raises two important questions: what is the function of the relative clause in the matrix clause and why is the predicate role in the relative clause empty? We will argue that the relative clause is parenthetically inserted into the main clause, for the following reasons:

- As Wilder noted, the relative clause seems to be premodifying the content kernel, but in both English and Dutch subordinate clauses can only be postmodifying. The only opportunity for finite clauses to be premodifying is when they are used parenthetically, cf. example (17):

- (17)a. * This is an, as clearly as mine is, stupid decision.
That was, as she thought, a stupid decision.
- The intonational structure of transparent free relatives roughly follows the intonational structure of other parenthetical clauses, as for example comment clauses. There seems to be an intonational break at the beginning of the parenthetical clause, and following the parenthetical clause the intonation of the matrix clause continues where it had stopped.
 - The part of the transparent free relative preceding the content kernel can be extraposed. This behavior is unexpected under a standard analysis, but it is in line with the behavior of other parenthetical clauses, cf. the transparent free relatives in (18a, b) with the comment clauses in (18c, d).
- (18)a. What John called a banjo is lying on my desk.
b. A banjo is lying on my desk, or (at least) what John called one.
c. That decision was, I think, a terrible mistake.
d. That decision was a terrible mistake, (or at least) I think (so).

The remaining question with our parenthetical analysis is why the predicate role can be empty. Whatever the answer to that, it should be noted that many other uncontroversial parentheticals share this characteristic:

- (19) “I don't think,” Jones said, “that this would be a good idea.”
(20) That's not what your father meant, I think, but you could ask him.
(21) There came you will never guess *how many people* to the party.

The reporting clause in example (19) seems to miss an obligatory direct object role⁴: usually people say *something*. The same goes for the comment clause in example (20). And the sluicing parenthetical in example (21) has the same problem as transparent free relatives: it is unclear to which clause the XP *how many people* belongs.

Apparently the parenthetical use of a finite clause is only possible by leaving an obligatory role empty. The empty direct object role in reporting clauses has been studied by Collins & Branigan (1997) for English and Schelfhout (2000) for Dutch; their conclusion is that the reporting clause is linked to the matrix clause by a pronominal operator: *so* in English and *zo* 'so' in Dutch. This operator may surface as the particle *so/zo*, which takes the first position in the reporting clause, but can remain phonologically empty as well. Apparently the existence of this operator is linked to the emptiness of the

⁴ This direct object cannot be the quote, as in Dutch reporting clauses can also contain verbs that do not take a direct object (*sneren* 'to sneer', *terugkrabbelen* 'to back out') or no verbs at all (*aldus de woordvoerder* 'according to the spokesman'). For a unified analysis the option that the quote is a direct object must be ruled out. For a more extensive analysis see Schelfhout (2000) and Collins & Branigan (1997).

obligatory direct object role of the verb. The same analysis is defended for finite comment clauses, as exemplified in (20), by Reis (1996) for German and by Schelfhout, Coppen & Oostdijk (to appear) for Dutch.

Can this operator *zo* 'so' also be used in this case? We think it can. If we right-dislocate a transparent free relative, the very same operator appears in Dutch:

- (22)a. Er ligt wat Jan noemt een unieke banjo op mijn desk.
 there lies what John calls a unique banjo on my bureau.
 'What John calls a unique banjo is lying on my desk.'
- b. Er ligt een unieke banjo op mijn bureau, of althans wat
 there lies a unique banjo on my desk or at-least what
 Jan **zo**/* \emptyset noemt.
 John so calls
 'A banjo is lying on my desk, or at least John called it that.'

As illustrated in (22b), in Dutch the operator *zo* is obligatory in the extraposed variant; in English the position of the predicate must be taken by a nominal element (*that* in 22b), but here too the position cannot remain empty.

As it seems that the parenthetical use of a finite clause gives rise to an obligatory argument role being empty, an empty predicate role in a transparent free relative is not surprising under a parenthetical analysis. Of course this mechanism needs further research; in particular it would be interesting to see whether the analysis that was developed for reporting clauses and comment clauses could be applied to transparent free relatives as well. But this is an issue for further research; for the present analysis it is sufficient to note that an empty predicate role in a transparent free relative is exactly what is expected under a parenthetical analysis, rather than an argument against it.

5. Conclusion

On the basis of the possibility to extract an element from the content kernel of a transparent free relative we have concluded that the content kernel must be in the matrix clause. This also offers a straightforward explanation for the number, definiteness, distribution and reference characteristics of transparent free relatives. The relative clause serves as a premodifier to the content kernel; we propose this premodifier is parenthetical in nature on the basis of its position and its prosodical characteristics. The analysis looks schematically as follows:

- (23) John bought [_{par} what he took to be] a banjo.

An apparent problem with this analysis seems why the predicate role of the relative clause can be phonologically empty. We suggested that this might be in line with other parenthetically used finite clauses, which all have an empty

argument role. This suggests that the lack of an obligatory role is not exclusive for transparent free relatives, but occurs with parenthetical constructions in general. Solving this puzzle will be topic of further research.

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