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## Past Participle Reduced Relatives as Small Clauses

### Introduction

Several analyses have been proposed to characterize which participles can appear in Reduced Relatives (RR hereafter) and to account for the distribution in (1).

- (1) a. The book bought by John is red.  
b. \*The man bought the book is John.

One of them was the *whiz*-deletion proposal, where RRs are derived by deleting *wh-word* + *BE*. Convincing arguments against this approach are provided in Williams (1975). A more recent attempt is by Iatridou, Anagnostopoulou, Izvorski (IAI hereafter) (2000), which states the following generalization as to the availability of RRs with the Past Participle in the Perfect.

- (2) a. A Reduced Relative can contain a Perfect if the missing auxiliary is BE.  
b. A Reduced Relative cannot contain a Perfect if the missing auxiliary is HAVE.

In this paper I focus on the generalization in (2) and show that it follows from a general structure of RRs and the restrictions different languages exhibit as to what participles are allowed in such environment.

### Some Problems for the Generalization in (2)

A quick look at the RRs crosslinguistically seems to suggest that the generalization concerning the Past Participle in the Perfect is correct. Auxiliary-selection languages allow such RRs only with the verbs that take BE-Perfect. Bulgarian, a BE-only language, allows Past Participle RRs with all classes of verbs, including transitives, as in (4).

- (4) Zaposnah se sas zena-ta napisala knjigata.  
met refl with woman-the written-pf.part book-the  
Ômet the woman who has written the book.Õ

However, as IAI notice, Spanish and English are exceptions to (2), allowing RRs with some unaccusative verbs, where the Ômitted Ô auxiliary is HAVE.

(5) The leaf fallen from the tree is red.

Furthermore, not all BE-only languages behave as Bulgarian. Slovenian, for example, allows Past Participle RRs only with unaccusative verbs.

(6) a. \*Videl sem \_ensko, napisalo knjigo.                    TRANSITIVE  
      seen am woman written book  
       $\hat{O}$ saw the woman that wrote the book. $\tilde{O}$

      b. Videla sem \_ensko, prispelo danes zjutraj.                    UNACCUSATIVE  
      seen am woman arrived-FEM/SG/ACC today morning  
       $\hat{O}$ saw a woman who arrived this morning. $\tilde{O}$

Slovenian does not contradict the generalization in (2) directly. It does, however, raise a new question, which the generalization does not answer: Why does Slovenian differ from Bulgarian, despite the fact the two languages have the same surface form of the Past Participle and use BE as the only auxiliary?

### Theoretical Assumptions

I adopt the Head-Raising analysis of relative clauses as proposed in Bhatt (2000) with the structure in (8b).

(8) a. the book which John likes  
      b.  $[_{DP} \text{the} [_{NP} \text{book}_i [_{CP} [\text{which } t_i]_j C^0 [_{IP} \text{John likes } t_j] ]]]]$

### The Proposal

To account for the cases in (5-6) we should link the Past Participle in RRs to other participles and phrases (APs, PPs) that appear in RRs. If we find the common structure, then the generalization in (2) will be derived from it. I propose that Reduced Relatives have the structure of a Small Clause (SC hereafter), such as (9b), where the participial phrase (or AP, PP), is a legitimate predicate over the trace of the head noun, which originates inside the relative clause.  $X^0$  is the null head of the SC, as in the Null-Head Hypothesis, Moro (1995).

(9) a. the man arrested  
      b.  $[_{DP} \text{the} [_{NP} \text{man}_i [_{XP=SC} t_i [_{X^0} [_{PTP} \text{arrested } t_i] ]]]]$

The languages in question differ in terms of what participles can appear in SCs and consequently in RRs (APs and PPs appear in SCs in all these languages, so they are not the focus of this discussion). As for the Past Participle, in English, only the Past Participle of a passive or an unaccusative  $v$  (in the sense of Kratzer (1993), Chomsky (1995)) appears in RRs, while in Bulgarian also the Past Participle of a transitive  $v$  can be found in a RR environment.

This proposal is strongly supported by the fact that the appearance of participles in RRs correlates with the appearance of these same participles as Small Clause predicates elsewhere in

language. Here, I consider the situation in English, Slovenian and Bulgarian. In English, all the participles appearing in RRs appear in SC environments elsewhere in language, as shown in Embick (1997).

(10) a. Past Participle of a passive verb

There were [<sub>SC</sub> [<sub>DP</sub> several people] [<sub>PrTP</sub> arrested by the police]]

b. Past Participle of an unaccusative verb

I thought [<sub>SC</sub> [<sub>DP</sub> these packages] [<sub>PrTP</sub> newly arrived]].

c. Present Participle

There were [<sub>SC</sub> [<sub>DP</sub> several people] [<sub>PrTP</sub> eating lima beans]]

d. Passive Present Participle

There were [<sub>SC</sub> [<sub>DP</sub> several people] [<sub>PrTP</sub> being arrested by the police]]

In Slovenian, the same participles that participate in RRs appear in SCs elsewhere in language, as seen in (11).

(11) a. Jasna smatra [<sub>SC</sub> [<sub>DP</sub> pacienta] za [<sub>PrTP</sub> umrlega]]

Jasna considers patient-SG/MASC/ACC for died- SG/MASC/ACC

Āasna considers/thinks the patient dead.Ā

b. Jasna smatra [<sub>SC</sub> [<sub>DP</sub> sobo] za [<sub>PrTP</sub> pospravljeno]].

Jasna considers room-SG/FEM/ACC for tidied up- SG/FEM/ACC

Āasna considers/thinks the room tidy.Ā

c. Jasna smatra [<sub>SC</sub> [<sub>DP</sub> otroka] za [<sub>PrTP</sub> spe\_ega]].

Jasna considers the baby-SG/MASC/ACC for sleeping-SG/MASC/ACC

Āasna considers/thinks the baby asleep.Ā

d. \*Jasna smatra [<sub>SC</sub> [<sub>DP</sub> pacienta] za [<sub>PrTP</sub>pojedlega strup]].

Jasna considers patient-SG/MASC/ACC for eaten- SG/MASC/ACC poison

\*Āasna considers the patient eaten the poison.Ā

In English and Slovenian, the Past Participle of transitive (and unergative) verbs does not appear in SCs and consequently not in RRs. In Bulgarian (Cf. 4), the Past Participle of transitive verbs appears in RRs. So, we would expect the same participle to occur in SCs elsewhere for this analysis to be correct. In fact, this is the case, as seen in (12).

(12) S\_itam ja za napisala knjigata.

consider-I I for written book-the

Āconsider myself to have written the book.Ā

### Conclusion

The aim of this paper was to show that the availability of the Past Participle in Reduced Relatives has to be considered in connection with the availability of other participles in the same construction and teased apart from auxiliary selection. Data from Bulgarian, English and

Slovenian suggest that the availability of a participle in a RR in a particular language correlates with the availability of this same participle in a SC environment elsewhere in the language. Therefore I proposed that RRs are SC constructions and their availability with certain participles correlates with the availability of these participles in SCs in general. The generalization in (2) and its exceptions follow from this analysis. In English and Slovenian, where the determining factor for the Past Participle to appear in a SC is unaccusativity, only the Past Participle of unaccusative verbs can appear in RRs (Cf. 5-6). In Bulgarian, which allows the Past Participle of transitive verbs to appear in SCs (Cf. 12), the Past Participle of a transitive verb can appear in a RR as well (Cf. 4).

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