

Why Free Relatives Sometimes Behave as Indefinites

In this paper I show that the puzzling behaviour of (realis) Free Relatives (henceforth: FRs) as definites in some contexts and indefinites in others is best accounted for under the assumption that the covert D(eterminer) head that takes the overt CP as its complement (cf. [2]) is ambiguous: first, it can denote the sigma-operator (see [10]), which returns an object of type e , namely the maximal (sum) individual that satisfies the predicate denoted by the respective CP with respect to either a contextually given situation or the world of evaluation (by default). Second, it can denote a kind-forming operator that returns an object of type $\langle s, e \rangle$, i.e. a function that for each possible world returns the maximal (sum) individual satisfying the respective predicate in that world (cf. [5], [6]). As something of type $\langle s, e \rangle$ cannot be an argument of an object level predicate, existential quantification over instances over the respective kind is triggered in such cases, completely parallel to the way bare plurals are treated in the (neo-)Carlsonian approach ([3], [5]). Evidence for my analysis comes from two sources: first, I show that existential interpretations of FRs are only possible if the predicate denoted by the respective CP is general enough for kind formation. Second, I show that the same ambiguity I claim for the empty D head present in FRs can be found in the definite determiner in languages like German and Italian: in German, kinds can be named either by bare plurals or by plural definites, while in Italian kinds can be named by plural definites exclusively in most environments (cf. [5], [11], [6]).

The by-now standard view on the semantics of (realis) FRs (see [9], [8] and [2]) is that they behave as (either singular or plural) definites, i.e. they denote the maximal (sum) individual contained within the set denoted by the respective CP. While this works well in episodic examples like (1a), which can accordingly be paraphrased as in (1b), it is less obvious how this analysis can account for adverbially quantified or generic examples like (2):

- (1) a. Peter ate what was on his plate b. Peter ate the thing(s) that was/were on his plate.
 (2) Peter (usually/often/always) reads what Mary recommends to him.

In an example like (2), the quantificational force of the FR seems to depend on the quantificational force of the respective Q-adverb and we get a reading according to which Peter reads most/many/all the books/papers that Mary recommends to him. As this behaviour is reminiscent of indefinites, [1] and [13] have claimed that FRs are better analysed as indefinites. Furthermore, [13] cites examples like (3a) as showing that FRs have genuine existential force, as (3a) seems to correspond to (3b), not to the ungrammatical (3c). [12], on the other hand, presents examples like (4), which seem to show an ambiguity between an existential and a universal/maximal force of FRs, as a puzzle for all existing analyses of FRs.

- (3) a. John wants to write what sells well.
 b. John wants to write a book that sells well.
 c. *John wants to write the book(s) that sell(s) well.
 (4) Wer nimmt, was ihm nicht gehört, ist ein Dieb.
 ‘Who takes what doesn’t belong to him is a thief’

[12] observes that the embedded object FR in (4) has existential force, while the subject FR has universal force. Accordingly, he gives the paraphrase in (5):

- (5) Jeder, der etwas nimmt, das ihm nicht gehört, ist ein Dieb.
 ‘Everyone who takes something that doesn’t belong to him is a thief’

Now, note that in the example in (3a) the existential readings disappears if the temporally unspecific CP-predicate is replaced by a temporally specific predicate: in (6a), the FR can only be interpreted as denoting the maximal (sum) individual satisfying the CP-predicate. Accordingly, the paraphrase in (6b) is adequate, not the one in (6c): in a situation where Mary suggested to John that he should write a book about kangaroos, a book about Q-adverbs and a book about Elvis, (6a) is only true if John wants to write *all* of this books, while in a situation

where Mary only suggested to John that he should write a book about kangaroos, it is sufficient that he wants to write that book.

- (6) a. John wants to write what Mary suggested to him last Friday.
 b. John wants to write the book(s) that Mary suggested to him last Friday.
 c. John wants to write a book that Mary suggested to him last Friday.

In order to capture this difference, I argue that the covert D^0 applying to the respective FR-CP is ambiguous between the two denotations given in (7a, b), where the second denotation is only allowed if the predicate it applies to is general enough to characterize a kind (cf. [5]):

- (7) a. $[[D_1]] = \lambda P_{\langle e, \langle s, t \rangle \rangle} . \sigma \{x: P(x)(s_1)\}$, where s_1 is a free variable that may either be resolved to a contextually salient situation or to the world of evaluation by default.
 b. $[[D_2]] = \lambda P_{\langle e, \langle s, t \rangle \rangle} . \lambda s . \sigma \{x: P(x)(s)\}$

Note that (7b) corresponds to the empty D^0 [5] assumes to be present in bare plurals in languages like English, while (7a) corresponds to the standard meaning of the definite determiner. Accordingly, I assume that FRs created via D_2 have the same interpretative options as bare plurals in English: this has the consequence that if they are arguments of an object level predicate like *write*, existential quantification over instances of the respective kind is triggered. This explains the existential reading of the FR in (3a). Furthermore, in the presence of a Q-adverb or a covert generic operator, Q(uantificational)V(ariability)E(ffect)s like the ones in (2) are expected, as they obtain with bare plurals as well. Finally, the fact that the subject FR in (4) has a quasi-universal reading, while the embedded object FR is interpreted existentially can be explained as follows: both are created via D_2 , as the respective predicates are general enough. Furthermore, as the verbs *take* and *belong to* are both object level, existential quantification over instances of the respective kinds is triggered. Finally, existential disclosure (see [7] and [4]) applies to the existential quantifier in the case of the subject FR, creating a predicate that can be interpreted in the restrictor of the covert generic operator, while the embedded object FR retains the existential interpretation. (4) is thus interpreted in the same way as the minimal variant in (8), for the same reasons.

- (8) Leute, die Dinge nehmen, die ihnen nicht gehören, sind Diebe.
 'People who take things that don't belong to them are thieves'

References: [1] Berman, S. (1991): The Semantics of Open Sentences. PhD thesis, University of Massachusetts, Amherst. [2] Caponigro, I. (2002): Free Relatives as DPs with a Silent D and a CP Complement. In: *Proceedings of WECOL 2000*. [3] Carlson, G. (1977): Reference to Kinds in English. PhD thesis, University of Massachusetts, Amherst. [4] Chierchia, G. (1995): *Dynamics of Meaning*. [5] Chierchia, G. (1998): Reference to Kinds Across Languages. *Natural Language Semantics* 6, 339-405. [6] Dayal, V. (2004): Number Marking and (In)Definiteness in Kind Terms. *Linguistics and Philosophy* 27, 393-450. [7] Dekker, P. (1993): Existential Disclosure. *Linguistics and Philosophy* 16, 561-587. [8] Grosu, A. (1994): *Three Studies in Locality and Case*. [9] Jacobson, P. (1995): On the Quantificational Force of English Free Relatives. In: E. Bach, E. Jelinek, A. Kratzer, B. H. Partee (eds.), *Quantification in Natural Language*, 451-486. [10] Link, G. (1983): The Logical Analysis of Plurals and Mass Terms: A Lattice-Theoretical Approach. In: R. Bäuerle, C. Schwarze and A. von Stechow (eds.), *Meaning, Use and Interpretation of Language*, 302-323. [11] Longobardi, G. (2001): How Comparative is Semantics? A Unified Parametric Theory of Bare Nouns and Proper Names. *Natural Language Semantics* 9, 335-369. [12] Sternefeld, W. (2005): Do Free Relative Clauses Have Quantificational Force?, In: H.-M. Gaertner, S. Beck, R. Eckardt, R. Musan and B. Stiebels (eds.), *Between 40 and 60 Puzzles for Krifka*, <http://www.zas.gwz-berlin.de/publications/40-60-puzzles-for-krifka/pdf/sternefeld.pdf> [13] Wiltschko, M. (1999): Free Relatives as Indefinites. In: *Proceedings of WCCFL 17*, 700-712.