Different Alternatives for Topics and Foci: Evidence from Indefinites and Multiple WH

We explore alternative sets in contrastive constructions and argue that different information structural units can come with different alternative sets, more specifically, the alternatives coming with (contrastive) topics can differ from the ones coming with (contrastive) foci. This is surprising for some accounts of contrastive topics (e.g. Büring 2003) and calls for an analysis of alternative formation that takes into account the specifics of topics and foci. Our test case are elliptical structures with indefinites on the one hand, and WH-phrases on the other. (1) is a gapping sentence with indefinites:

(1) /E_eine Frau schrieb dem Di/REK_ und /E_eine Frau _ dem De\KAN.

‘Some woman wrote to the director and some woman to the dean.’

The conjoined clauses in (1) have identical subjects: ein Student. Thus, on the surface, there is no contrast between the elements before the gap, which is surprising from the point of view of ellipsis because ellipsis requires contrast. Obviously, there is a contrast here – we understand (1) as involving two different student individuals (cf. Eckardt 2002 for a similar observation). A prerequisite for this interpretation is the special prosody, i.e. the rising accent on the determiner, which has been suggested to indicate topicality (e.g. Molnár 1993). Next compare the following variant of the above sentence, where the identical indefinites appear in the position after the gap. The result is ungrammatical:

(2) *Dem Di/REKtor schrieb /E_eine Frau und dem De\KAN_ /E_eine Frau.

‘To the director, some woman wrote, and to the dean, some woman.’

It has been suggested that the contrastive elements in gapping are topics – before the gap – and foci – after the gap (e.g. Winkler 2005). We suggest that this is exactly what our data reflect. We propose that when contrasted, topics can take recourse to different alternative sets from foci.

We assume with Reinhart (1981) that topics are discourse referents with a discourse address. For topical indefinites, which introduce novel discourse referents, this means that they fix an address for a discourse referent. This is crucial: it is not sufficient to rely on the mere introduction of a discourse referent. Any indefinite can do that. Yet, while it is possible to be ignorant about the referential address of ‘ordinary’ indefinites – there is none –, this is not possible for topical indefinites, see (3) (with non-topical indefinites) vs. (4) (with topical indefinites):

(3) /M_MAX hat ein Buch gelesen und Maria hat ein Buch gelesen. Vielleicht war es das gleiche.

‘Max read a book and Maria read a book. Maybe it was the same one.’

(4) /E_Buch hat MAX gelesen und /E_Buch hat Maria gelesen. #Vieliech war es das gleiche.

‘One book, Max read and one book, Maria read. Maybe it was the same one.’

This address-establishing act can be carried out several times. All it needs is the occurrence of a determiner from a well-defined set of quantificational determiners, which essentially comprises the indefinite article and unmodified numerals. Quantificational DPs headed by other determiners can only be felicitously contrasted if there is a denotational contrast (e.g. more than 3 vs. more than 4 in (6)):

(5) /DREI Kinder haben das /BUCH gewählt und /DREI Kinder die \CD

‘Three children chose the book and three children the CD.’

(6) /DREI Kinder haben das /BUCH gewählt und mehr als /DREI Kinder die \CD.

‘More than three children chose the book and more than three children the CD.’

We assume that only atomic individuals or sum individuals can serve as entities for which an address is created but not sets of sets of individuals (i.e. quantifiers): the latter are too complex objects. This explains the above restriction: only for quantifiers of the first kind representatives in the form of (minimal) witness sets (Barwise and Cooper 1981) are defined (see Ebert and Endriss 2004), which means that only in these cases, sets are available which can be turned into (either atomic or sum) individuals.

During address creation, a label – say [A1], [A2], etc., – is created for each of these individuals, and some information – namely the comment coming with the topic – is stored under the address. When we contrast topical indefinites we contrast the addresses, i.e. they are the elements in the respective alternative sets, not the denotations of the quantificational DPs on the basis of which the addresses were created.
Notably, also some foci can be contrasted on a referential basis without denotational contrast. This is possible for foci on demonstratives if combined with deictic gestures in the real world as in the correction structure in (7) (which by definition involves foci), and for foci on bound pronouns, see (8).

(7) Ich will nicht /DEN Keks, sondern /DEN (Keks). \( \rightarrow \) Speaker points to two different biscuits. ‘I don’t want this biscuit but that one.’

(8) /PETE called /HIS son and /JOHN /HIS son.

The felicity of (7) is due to the fact that demonstratives are directly referential, so that the two demonstratives in this example by definition denote two different individuals. Indefinites, on the other hand, need topic marking in order to induce a referential contrast. (8) is good because the two his are bound by two different topical antecedents, which automatically makes them referentially distinct.

Now, maybe surprisingly, gapping with multiple \textit{wh}-questions (with \textit{which-phrases} as below or other \textit{whs}) shows the same asymmetry between pre- and postgap material as gapping with indefinites:

(9) /WELcher Student las welches /BUCH und /WELcher Student welchen Ar/tikel?

‘Which student read which book and which student which article?’

(10) *Welches /BUCH las /WELcher Student und welchen Ar/tikel /WELcher Student?

‘Which book did which student read and which article which student?’

We do not claim that \textit{wh}-phrases are topics. Rather we assume that they share certain features with topics, viz. the ability to create addresses for storing information. It is generally assumed that an interrogative with a \textit{wh}-phrase introduces a referent by presupposition:

(11) Who gave the book to Mary? \textit{presupposes}: there is an x, x gave the book to Mary.

Importantly, the interrogative requires that more information be provided about this referent. This latter aspect can be compared to creating an address under which the information to be supplied by the answer is to be stored. (11) can be answered by (12):

(12) Peter gave the book to Mary.

The information to be stored under the address created by \textit{who} in (11), e.g. [A1], is that the individual corresponding to [A1] is identical to Peter (which, as is commonly assumed, is the focus of the answer). The answer to a \textit{wh}-question can be seen as a predicate that applies to the individual introduced by the respective \textit{wh}-term, as given in (13) for the example under discussion:

(13) \[ \lambda y. y = Peter \& \text{Gave\_book\_Mary}(y) \] ([A1])

Thus, the information predicated of the individual corresponding to [A1] is that this individual is identical to Peter and that it gave the book to Mary. Formally, we assume that proper names like \textit{Peter} can be shifted to predicates with the denotation \( \lambda x. x=\text{Peter} \). This predicate is then combined with the predicate denoted by the rest of the clause via the rule of predicate modification (cf. Heim and Kratzer 1998), giving us the object in (13).

As for the second \textit{wh}-phrase in a multiple \textit{wh}-question, which is in the scope of the first one, we assume that the individual it introduces (via existential presupposition) does not have its own address but is stored under the address of the first \textit{wh}-phrase. This roughly corresponds to the sorting key hypothesis put forward by Kuno (1982). Pair-list answers can be created on the basis of subaddresses, which are derived from a sum individual, whose existence we assume to be presupposed in such cases.