

Direct and Indirect Aboutness Topics*

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We propose a definition of aboutness topicality that not only encompasses individual denoting DPs, but also indefinites. We concentrate on the interpretative effects of marking indefinites as topics: they either receive widest scope in their clause, or they are interpreted in the restrictor of an overt or covert Q-adverb. We show that in the first case they are direct aboutness topics insofar as they are the subject of a predication expressed by the comment, while in the second case they are indirect aboutness topics: they define the subject of a higher-order predication – namely the set of situations that the respective Q-adverb quantifies over.

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1 Introduction

Although the notion *topic* plays an important role in descriptive as well as in theoretical linguistics, there is no general consensus as to how it is to be defined. While most linguists agree that an *aboutness-relation* holding between the topic and the rest of the clause is a necessary ingredient in the definition of topicality, it is still debated whether *discourse givenness* or *familiarity* are necessary properties of topics, too.

To grasp the intuitive content of the aboutness-concept, consider the examples in (1):

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- (1) a. *Maria, die ist eine sehr begabte Sängerin.*
 Maria, RP¹-FEM.NOM.SING is a very talented singer
 ‘Maria is a very talented singer.’
- b. *Peter, den hab ich lange nicht mehr gesehen.*
 Peter, RP-MASC.ACC.SING have I long not more seen
 ‘I haven’t seen Peter for a long time anymore.’

The sentences in (1) both exemplify so-called *left-dislocation*, where an XP in fronted position is associated with a resumptive pronoun in the specifier position of CP. We follow Frey (2004) in assuming that German left-dislocated phrases which are not understood contrastively are necessarily interpreted as topics, and accordingly use left-dislocation as a topic-test, comparable to Japanese *wa*-marking (cf. Portner & Yabushita 1998).

Intuitively, both sentences in (1) are felt to mainly convey information about Maria and Peter, respectively: they are both fine as answers to questions like *What about Maria/Peter?* or commands like *Tell me something about Maria/Peter*, while they are odd as answers to questions like *Who is a very talented singer?* or *Who haven’t you seen for a long time?*² Note furthermore that the left-dislocated DPs in (1a, b) are both necessarily at least *weakly familiar*: being proper names, they can only be used felicitously if both speaker and hearer know what individuals they refer to.

Because of the prevalence of examples with proper names, definite descriptions and pronouns in the literature on topics, many linguists subscribe to the view that (weak) familiarity is a necessary property of topics (cf. Hockett 1958; Kuno 1972; Gundel 1988; Portner & Yabushita 1998). We will, however, follow Reinhart (1981; see also Molnar 1993 and Frey 2000, 2004) in assuming

¹ *RP* is the abbreviation for *resumptive pronoun*.

² Note that both sentences are (at least marginally) acceptable as answers to such questions if the respective individuals have already been established as discourse topics in the preceding context.

that *familiarity* is *not* a defining property of topics. This claim is based on the observation that not only individual denoting DPs can be sentence topics, but also unmodified indefinite DPs, while modified indefinites and other quantificational DPs are excluded from topic positions (more on this in section 2).

Concerning definites, proper names and pronouns, it is obvious that the respective DPs denote entities which have either been introduced explicitly or are at least given implicitly via shared background knowledge. On the other hand, it is well known that indefinite DPs have to be *novel*, i.e. they are not allowed to take up already existing discourse referents (cf. Heim 1982). In section 2 we will therefore (following Ebert & Endriss 2004 and Endriss 2006) introduce a definition of *direct* aboutness topicality that not only works for both individual denoting DPs and unmodified indefinites, but which also accounts for the fact that other quantificational DPs cannot be aboutness topics. In addition, we will see that the necessary wide scope interpretation of topical indefinites in sentences with other quantificational DPs is a natural consequence of this concept of aboutness topicality.

At the same time, it is well known that topical indefinites in the presence of adverbial quantifiers also receive an interpretation which at first sight does not seem to fall under our concept of aboutness topicality: they can be interpreted in the restrictor of a Q-adverb, giving rise to so-called *Quantificational Variability Effects* (QVEs)³ (cf. von Stechow 1994). This phenomenon is exemplified by the sentences in (2a, c), which have prominent readings that can be paraphrased as in (2b, d), respectively:

³ This name is due to the fact that in these cases the quantificational force of the topical indefinite seems to depend on the quantificational force of the respective Q-adverb, as witnessed by the paraphrase in (2a). Note, however, that we assume this to be an indirect effect of a quantification over (minimal) situations each of which contains exactly one individual of the respective kind (see below).

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- (2) a. *Ein Tintenfisch, der* *ist meistens intelligent.*
 a squid, RP-MASC.NOM.SING is usually intelligent
 ‘A squid is usually intelligent.’
- b. Most squids are intelligent.
- c. *Eine Mahler-Symphonie, die* *ist selten kurz.*
 a Mahler-symphony, RP-FEM.NOM.SING is seldom short
 ‘A Mahler symphony is seldom short.’
- d. Few Mahler symphonies are short.

In section 3 we propose that the indefinites in (2a,c) are the indirect aboutness topics of a higher-order predication: they define a set of situations that the Q-adverb quantifies over. This quantification is in turn (following Löbner 2000) understood as a process where the Q-adverb specifies the degree to which the respective predicate applies to this set – namely by indicating how large a proportion of the members of the set quantified over has to be included in the set denoted by the predicate in order for the sentence to be true. Finally, we argue that topical *when*-clauses (and possibly also *if*-clauses) are the *direct* aboutness topics of sentences with Q-adverbs.

2 Wide Scope Indefinites as Direct Aboutness Topics

2.1 The facts

Consider the examples in (3): in (3a), the left-dislocated indefinite can only be understood as having scope over the universally quantified DP (as indicated by the paraphrase). (3b), in contrast, is ambiguous: the indefinite DP can be

interpreted as having either wide or narrow scope (as indicated by the paraphrases).⁴

- (3) a. *Einen Linguisten, den kennt jeder.*
 a- ACC linguist- ACC, RP-MASC.ACC.SING knows everyone
 ‘There is a certain linguist that everyone knows.’
- b. *Einen Linguisten kennt jeder.*
 a- ACC linguist- ACC knows everyone
 ‘There’s a certain linguist that everyone knows’ or
 ‘Everyone knows some linguist or other.’

Note furthermore that left-dislocating the modified indefinites in (4a) as well as the quantificational DPs in (4b) leads to ungrammaticality: they are unacceptable as sentence topics.

- (4) a. * *Mehr als/weniger als/genau zwei Linguisten,*
 more than/less than/exactly two linguists-ACC,
die kenne ich.
 RP-ACC.PLUR know I
- b. * *Jeden/keinen Linguisten, den kenne ich.*
 every-ACC/no-ACC linguist-ACC, RP-MASC.ACC.SING know I

We therefore need a definition of aboutness topic that fulfils the following requirements: it needs to explain why unmodified indefinites can be sentence topics, and why the other quantificational DPs in (4) cannot⁵. And it needs to explain why topical indefinites necessarily receive wide scope interpretations.

⁴ For the purposes of this paper we abstract away from the fact that in order for indefinites to be interpreted specifically in adverbially quantified sentences, a strong accent on the determiner is required in German (cf. Endriss & Hinterwimmer to appear-a and Endriss & Hinterwimmer in preparation for discussion).

⁵ Note that the *topic condition* proposed by Ebert & Endriss (2004) and Endriss (2006), which is summarized in section 2.2, also classifies plural universal quantifiers like DPs headed by *alle* (*all*) and non-exhaustive monotone increasing quantifiers like DPs headed

2.2 The explanation

Following Reinhart (1981), we assume that in case a DP denotes an object of type e , topic-marking this DP (via left-dislocation, for example) has no truth-conditional, but only a pragmatic effect: it structures the information conveyed by the respective clause in a certain way, namely via creating an address that corresponds to the individual denoted by the topical DP, and where the information conveyed by the comment is stored. Apart from that, the respective topic-comment structure is interpreted as a generalized subject-predicate structure, where the topical DP (irrespective of case-marking, agreement relations and thematic role) is the “subject”, and the comment is the predicate applying to this “subject”. A sentence like (5a) is thus interpreted as in (5b), the final result of which is of course truth-conditionally equivalent to the case where *Peter* has not been topicalized. Furthermore, the information that the speaker likes Peter is stored under the address *Peter*:

- (5) a. *Peter, den* *mag ich.*
 Peter, RP-MASC.ACC.SING like I
- b. $[\lambda x. \text{like}'(x, I)](\text{Peter}) = \text{like}'(\text{Peter}, I)$.

Following Ebert & Endriss (2004) and Endriss (2006), we assume that only individuals (objects of type e) and sets (objects of type $\langle e, t \rangle$) can legitimately serve as addresses for storing information. This creates a problem in cases where the topical DP is a generalized quantifier, i.e. an object of type $\langle \langle e, t \rangle, t \rangle$ and thus *a set of sets*. One option to overcome this problem is to create a *representative* of the respective generalized quantifier in the form of a *minimal witness set* (in the sense of Barwise & Cooper 1981).

by *einige* (*some*) as possible topics (cf. Ebert & Endriss 2004 and Endriss 2006 for discussion).

A minimal witness set of a quantifier is an element of the respective quantifier that does not contain any unwanted elements. For instance, in the case of a quantifier like *three dogs*, it is a set that contains three dogs and nothing else. This minimal witness set can then function as the address where the information conveyed by the comment is stored.

In order for this to be possible, however, the denotation of the topic – which now is a set, i.e., an object of type $\langle e, t \rangle$ – has to be combined with the denotation of the comment, which is a predicate and thus also an object of type $\langle e, t \rangle$. This creates a conflict which we assume to be resolved in the following way: the elements of the minimal witness set corresponding to the topicalized quantifier are distributed over the elements of the set denoted by the comment.

The interpretation of sentences with topical quantifiers is given schematically in (6), where α_T is the topical quantifier, Q is the comment and $\min(P, \alpha_T)$ is to be read as “ P is a minimal witness set of α_T ”:

$$(6) \quad \exists P [\alpha_T(P) \wedge \min(P, \alpha_T) \wedge \forall x [P(x) \rightarrow Q(x)]].$$

It is now easy to see that interpreting a sentence like (3a) (repeated below as (7a)) along this schema (as shown in (7b)) necessarily results in a reading that is equivalent to a wide scope interpretation of the topical quantifier:

- (7) a. *Einen Linguisten, den kennt jeder.*
 a-ACC linguist- ACC, RP-MASC.ACC.SING knows everyone
 ‘There is a certain linguist that everyone knows.’
- b. $\exists P [a \text{ linguist}'(P) \wedge \min(P, a \text{ linguist}')] \wedge \forall x [P(x) \rightarrow \forall y [person'(y) \rightarrow know'(x, y)]]$.

In addition to accounting for the interpretative effect of topicalizing unmodified indefinites in such sentences, this account can also explain why these indefinites

are the only quantifiers that can be aboutness topics: in all other cases, applying the above procedure to the respective quantifier leads to unacceptable results. In the case of monotone decreasing quantifiers such as *less than two linguists* or *no linguist*, for example, the corresponding minimal witness set would be the empty set, which would obviously not be a sensible representative for the quantifier⁶. With quantifiers such as *more than two linguists*, anaphoric possibilities would be destroyed that were otherwise available, etc. (cf. Ebert & Endriss 2004 and Endriss 2006 for details).

Note finally that in cases like (8a), where the left-dislocated indefinite contains a pronoun that can be interpreted as bound by the universal quantifier contained within the comment, the indefinite receives an interpretation as a functional topic that is *not* identical to a simple narrow scope interpretation, as is evidenced by the fact that a continuation like (8b) is possible, but no simple pair list enumeration (cf. Endriss 2006 for details).

- (8) a. *Ein Bild von sich, das hat jeder Schüler*
 a picture of himself, RP-NEUT.ACC.SING has every pupil
mitgebracht.
 brought-with-him
 ‘Every pupil has brought a certain picture of himself.’
- b. *Nämlich sein Einschulungsfoto.*
 namely his picture-of-first-day-at-school
 ‘Namely the picture of his first day at school.’

⁶ In the case of quantificational determiners such as *more than two*, a minimal witness set of the respective Generalized Quantifier would also be a poor representative for the quantifier, because it does not mimic the dynamic behavior, i.e. the anaphoric possibilities, of this quantifier in an adequate way. In the case of *jeder* (*every*), finally, the problem is that the corresponding minimal witness set of the respective quantifier is a plural set, while the respective DP, and thus the resumptive pronoun, is morphologically singular (cf. Ebert & Endriss 2004 and Endriss 2006 for details).

3 Indefinites as Indirect Aboutness Topics

Consider again our example (2a), repeated as (9a), which is interpreted as in (9b).

- (9) a. *Ein Tintenfisch, der* *ist meistens intelligent.*
 a squid, RP-MASC.NOM.SING is usually intelligent
 ‘A squid is usually intelligent.’
- b. Most squids are intelligent.

At first sight, this interpretation seems to be in conflict with our assumption that the left-dislocated indefinite in (9a) is an aboutness topic, too, because the interpretation strategy discussed in section 2 would yield a (strange) reading according to which there is a specific squid that is intelligent most of the time.

It is, however, possible to reconcile our view of left-dislocated indefinites as aboutness topics with the fact that such indefinites receive quantificational variability readings in the presence of Q-adverbs if we view quantification as a higher-order predication process. Seen this way, the restrictor set – i.e. the set quantified over – is the “subject” of a higher-order predication, where this higher-order predication consists in specifying the degree to which the restrictor set is contained within the set denoted by the respective matrix predicate (cf. Löbner 2000 for a similar view).

Now, in the case of quantificational DPs this relation is masked by the fact that quantificational determiners form constituents with NPs, which function as their restrictors. Accordingly, the restrictor in these cases cannot be marked as an aboutness topic via separating it from the rest of the clause, which could then function as the comment. In the case of Q-adverbs, on the other hand, this is possible, as Q-adverbs do not form constituents with their restrictors, but rather – occupying *vP*-adjoined (base) positions – with their nuclear scopes.

Let us therefore assume that Q-adverbs, which we assume to quantify over situations exclusively (cf. Endriss & Hinterwimmer to appear-b and Hinterwimmer 2005 for arguments supporting this view), take their arguments in reverse order (seen from the perspective of determiner-quantification; cf. Chierchia 1995): they combine with the set of situations denoted by the ν P-segment they c-command at LF first, forming a predicate that can be applied to the respective topical set (cf. Hinterwimmer 2005 for details).

Now, in cases like (10a), a topical set of situations is given directly in the form of a left-dislocated *when*-clause, and the sentence can be interpreted as given (schematically) in (10b):

- (10) a. *Wenn Paul in seinem Büro ist, dann ist Maria meistens glücklich.*
 when Paul in his office is, then is Maria usually happy
 ‘When Paul is in his office, Maria is usually happy.’
- b. $[\lambda Q \langle s, t \rangle. \text{Most } s [Q(s)] [\text{happy}'(\text{Maria}, s)]] (\lambda s. \text{in-his-office}'(\text{Paul}, s)) = \text{Most } s [\text{in-his-office}'(\text{Paul}, s)] [\text{happy}'(\text{Maria}, s)].$

In an example like (10a), the left-dislocated *when*-clause is thus the *direct* aboutness topic, being the “subject” of the higher-order predication expressed by the comment. In a case like (9a), on the other hand, no such *direct* aboutness topic is given, as the left-dislocated indefinite denotes a set of sets of relations between individuals and situations⁷, not a set of situations, as shown in (11).

We assume that in order to fix this mismatch, there is a second possibility available (in addition to the one discussed in section 2) to turn an indefinite into

⁷ Since situations are now part of the picture, we have to assume this slightly more complicated denotation of quantifiers for reasons of consistency (as can be seen in the formula in (11)). Of course, we assume that this also holds for the quantifiers discussed in section 2, where we abstracted away from this complication, since it was not relevant at that point.

a set that can serve as an address for storing information: it can be turned into a set of situations via a simple type-shift, namely by applying the predicate $\lambda x \lambda s. in(x, s)$ to it (cf. Hinterwimmer 2005 for details). This gives us a set of situations each of which contains an individual of the respective kind, as shown in (11) for the left-dislocated indefinite from example (9a)⁸:

$$(11) \quad [\lambda Q_{\langle e, \langle s, t \rangle \rangle}. \lambda s. \exists x [\text{squid}'(x) \wedge Q(x, s)]] (\lambda x \lambda s. in(x, s)) = \\ \lambda s. \exists x [\text{squid}'(x) \wedge in(x, s)]$$

This set of situations can then function as the aboutness topic in cases like (9a), and the left-dislocated indefinite can be seen as the *indirect* aboutness topic of such sentences, as the *direct* aboutness topic, i.e. the set of situations in (11), has been derived from the denotation of the respective indefinite.

In order to derive the reading we are after in cases like (9a) (which is repeated below as (12a)), we have to assume that the resumptive pronoun in the specifier position of CP is reconstructed into its vP-internal base position, where it is interpreted as a free variable (i.e. just like an ordinary pronoun) that can be dynamically bound by the indefinite in the restrictor of the Q-adverb⁹. This gives us a higher-order predicate that can be applied to the topical set, as shown in (12b), resulting in an interpretation that can be paraphrased as “Most

⁸ We assume that in the case of left-dislocated bare plurals basically the same mechanism applies, modulo the fact that bare plurals denote kinds which have to be turned into plural indefinites in cases where they are to be combined with non-kind-level predicates (see Hinterwimmer 2005 and the references cited therein for further discussion).

⁹ We assume that in the cases discussed in section 2 the resumptive pronoun is interpreted in the specifier position of CP, triggering lambda-abstraction and thus creating an individual predicate, in analogy to relative pronouns (cf. Endriss & Hinterwimmer in preparation for details and further motivation).

(minimal) situations that contain a squid are situations where this squid is intelligent¹⁰:

- (12) a. *Ein Tintenfisch, der ist meistens intelligent.*
 a squid, RP-MASC.NOM.SING is usually intelligent
 ‘A squid is usually intelligent.’
- b. $[\lambda Q \langle s, t \rangle. \text{Most } s [Q(s)] [\text{intelligent}'(x, s)]]$
 $(\lambda s. \exists x [\text{squid}'(x) \wedge \text{in}(x, s)]) =$
 $\text{Most } s [\exists x [\text{squid}'(x) \wedge \text{in}(x, s)]] [\text{intelligent}'(x, s)]$

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¹⁰ The formal representations we give in this section are strongly simplified, as they do not incorporate the minimality condition that is necessary in order to get readings that are equivalent to a direct quantification over individuals (cf. von Stechow 1994 and Hinterwimmer 2005 for discussion).

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