

## **Topic and Demonstrative Pronouns in Czech\***

### **1 Introduction**

Czech linguists have long argued that word order in Czech is primarily determined by discourse factors such as topic and focus (for Topic Focus Articulation (TFA) see Sgall, Hajičová and Benešová 1973; Sgall, Hajičová and Buráňová 1980; Sgall, Hajičová and Panevová 1986). Under traditional Czech analyses, such as TFA, the topic has been defined as ‘those nodes that do not belong to the focus’ (Hajičová 1983: 271). My goal is to work towards a narrower definition of *topic*.<sup>1</sup> In order to accomplish this goal certain diagnostics are used. Following the discussion of Gundel et al 1993 and Comrie 2000, I suggest that demonstrative pronouns in Czech require that their antecedents be non-topical and argue that elements which are not able to antecede a demonstrative pronoun are topical. A disjunctive definition of *topic*, referencing structural position is proposed for Czech.

### **2 Syntax of the Left Periphery**

Before the distribution of demonstratives can be understood, it is necessary to provide an analysis of the structural position of topical elements in Czech. I follow Lenertová’s 2001 proposal for the syntax of the left periphery.

It is first necessary to consider the behavior of second position clitics. Czech clitics generally follow the first XP, with some exceptions (Toman 1981, 1996).<sup>2</sup> In (1) the reflexive clitic follows a sentence-initial DP.

- (1) *Celá ta vesnice se těšila na příma večeři.*  
whole that town refl-cl looked-forward on nice dinner  
‘The whole town looked forward to the nice dinner.’ (Mach a Šebestová: 75)<sup>3</sup>

Lenertová 2001 argues against a prosodic analysis of Czech clitics and proposes that they occur in a fixed syntactic position (see also Veselovská 1995). Evidence for this claim comes from two sources. First, clitics can either pro- or encliticize.

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<sup>1</sup> My use of the term *topic* differs from its traditional use under TFA. What I refer to as *topic* corresponds to their notion of *topic proper*.

<sup>2</sup> Czech has both verbal auxiliary and pronominal clitics. With the exception of nominative and vocative, there are pronominal clitics in all nominal cases. Additionally, there are reflexive clitics; these can be anaphoric to argument positions or used with lexically reflexive verbs. Verbal auxiliary clitics in the past tense mark person and number in the 1<sup>st</sup> and 2<sup>nd</sup> person (they are absent in the 3<sup>rd</sup> person). There are also auxiliary clitics which mark the conditional mood. Clitics are obligatorily ordered: auxiliary-reflexive-dative-accusative.

(i) *Řekla jsem mu to.*  
told aux.1sg.cl him.dat.cl it.acc.cl  
‘I told it to him.’

<sup>3</sup> Abbreviations include: nom (nominative), dat (dative), acc (accusative), gen (genitive), sg (singular), pl (plural), refl (reflexive), cl (clitic), prt (particle), fem (feminine), masc (masculine), neg (negation), inf (infinitive), aux (auxiliary), dim (diminutive).

- (2) *Pomáhat ~mu, by= to dnes stálo mnoho.*  
 help.inf him.cl would.cl it today cost much  
 ‘Helping him would cost a lot today.’ (Lenertová 2001: (4))<sup>4</sup>

As there is an intonational break after the preposed IP in (2), the auxiliary clitic procliticizes phonologically to the following material; the pronominal clitic encliticizes. Second, clitics can occur sentence-initially if there is no topic or the topic has been deleted; this is characteristic of casual speech (Fried 1994, Toman 1996, 1999).

- (3) *Se mi včera narodil kluk...*  
 refl.cl me.cl yesterday born boy  
 ‘My son was born yesterday...’ (Lenertová 2001: (6))

In declarative sentences only one XP can occur in the pre-clitic position. This XP can be interpreted as given, as contrastively topicalized or as focused. Contrastively topicalized and focused XP’s are associated with an intonational rise which is indicated by capitalization. In (4), the referent of the pre-clitic DP, *Vítek*, is given and there is no intonational rise associated with it.

- (4) *Maminka Vítku zvedla a postavila ho do dveří vagónu. Vítek se*  
 mom Vítek brought and stood him to doors wagon Vítek refl-cl  
*těšil...*  
 looked-forward-to  
 ‘Mom took Vítek and put him in the door of the wagon. Vítek was looking forward to...’  
 (*Jak jel Vítek do Prahy*: 13)

In (5) *Honzovi* and *Petrovi* are contrastively topicalized; their referents stand in a set relation to the entity denoted by *your sons*. There is a discussion of contrastive topicalization in §3.1.

- (5a) *Co jsi koupila synům k svátku?*  
 what aux.1sg bought sons.dat towards name-day  
 ‘What did you buy your sons for their name days?’
- (b) *HONZOVI jsem koupila AUTÍČKO a PETROVI KNÍŽKU.*  
 Honza.dat aux.1sg bought car.dim.acc and Petr.dat book.acc  
 ‘Honza I bought a car and Petr a book.’

In (6b) the DP, *a book*, is the narrowly focused answer to a wh-question.

- (6a) *Co jsi dala Honzovi k narozeninám?*  
 what aux.2sg gave Honza.dat towards birthday  
 ‘What did you give Honza for his birthday?’
- (b) *KNÍŽKU jsem mu dala.*  
 book.acc aux.1sg him.cl gave  
 ‘I gave him a book.’

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<sup>4</sup> The symbols ‘~’ and ‘=’ are from Fried 1994 and indicate syntactic and phonological attachment respectively. The appearance of ‘~’ on its own indicates that syntactic and phonological attachments are isomorphic.

It is not possible, however, for topics (T) and contrastively topicalized/focused (F) elements to occur together before clitics (see also Lenertová 2001).

(7) \**Honzovi<sub>T</sub> KNIŽKU<sub>F</sub> jsem dala.*  
 Honza.dat book.acc aux.1sg.cl gave  
 ‘I gave Honza a book.’

(8) \**KNIŽKU<sub>F</sub> Honzovi<sub>T</sub> jsem dala.*  
 book.acc Honza.dat aux.1sg.cl gave  
 ‘I gave Honza a book.’

This suggests that there is one pre-clitic, left edge position which can be associated with both given and contrastive interpretations.

Before determining the structural position of pre-clitic XP’s, data from wh-constructions are considered. In contrast to declarative sentences, it is possible for more than one XP to occur before clitics in wh-questions. A contrastively topicalized DP co-occurs with a wh-phrase in (9).

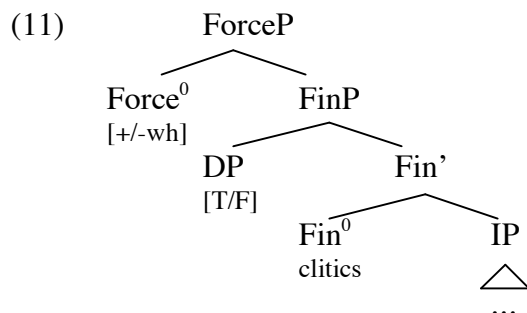
(9) *Také Mirek by vyslovil nesouhlas...Ale tvůj kamarád Josef, tomu by se to asi líbilo..—A co EMA<sub>F</sub> by na to řekla?*  
 also Mirek would pronounce neg-agree but your friend Josef, that would refl-cl it maybe like and what Ema would on it say  
 ‘Mirek would also disagree...but your friend Josef, he would probably like it. — And what would EMA<sub>F</sub> say?’  
 (Lenertová 2001: (19))

However, it is not possible for a topicalized DP to occur in this position.

(10) \**Kdy to auto<sub>T</sub> bys teda koupil?*  
 when that car would.2sg.cl prt bought  
 ‘When would you buy the car<sub>T</sub>?’  
 (Lenertová 2001: (21))

Lenertová 2001 modifies the Rizzi 1997 split-CP proposal to account for Czech. Wh-phrases are found in the highest functional projection, [Spec, ForceP], and topics/contrastive topics/foci are found in a lower position, [Spec, FinP].<sup>5</sup> She posits that clitics are positioned syntactically in Fin<sup>0</sup>. Topic, [T], and focus, [F], features in Fin<sup>0</sup> are assumed to motivate movement of topical and contrastive elements into [Spec, FinP].

A tree summarizing this proposal is given in (11).



<sup>5</sup> Czech allows multiple wh-fronting, but I will not consider that here.

Certain features of the left periphery are predicted by this analysis. Only one XP can occur in the pre-clitic position in declarative sentences because only one pre-clitic specifier position is available, [Spec, FinP]. In wh-questions, however, clitics can occur immediately after the wh-word (if there is no XP in [Spec, FinP]) or following both the wh-word and a fronted contrastively topicalized or focused element.<sup>6</sup> With the syntax of the left periphery in place, now we turn to a discussion of the distribution of demonstrative pronouns and a definition of *topic* in Czech.

### 3 Identifying Topics

Comrie 2000 argues that demonstrative pronouns in Dutch can only be anteceded by non-topical DP's. Similar conclusions are drawn in Gundel et al 1993 for English, Mandarin, Spanish, Japanese and Russian. Kresin 1994 and Koktová 1992 describe the distribution of these pronouns and conclude that antecedents of demonstratives must be less prominent in the overall discourse than other elements. I draw from these approaches and show that demonstrative pronouns require that their antecedent be non-topical. A structural definition of *topic* is given. This analysis correctly accounts for a wide range of data not yet considered in the literature.<sup>7</sup>

Antecedents of demonstrative pronouns in Czech are found in a wide range of contexts.<sup>8</sup> The most common antecedent for a demonstrative is a post-verbal DP in a right edge argument position, a position generally associated with a focus interpretation (both wide and narrow). The first examples I provide show that a nominative DP at the left edge of a clause cannot antecede a demonstrative. In (12) the demonstrative pronoun refers unambiguously to the object of the preposition, *Vítězslav*, though it also shares phi-features with the subject, *soudce* ('the judge').

- (12) *Soudce<sub>1</sub> se podíval zkoumavě na Vítězslava<sub>2</sub> a ten<sub>2/\*1</sub> si požádal...*  
 judge refl-cl looked searchingly at Vitezslav.acc and that refl-cl requested  
 'The judge<sub>1</sub> looked searchingly at Vítězslav<sub>2</sub> and that<sub>2/\*1</sub> requested...'  
 (Czech National Corpus)

Note that the demonstrative pronoun obligatorily occurs at the left edge of its clause. I assume it sits in [Spec, FinP].

As mentioned above, the most common antecedent of a demonstrative pronoun is a non-nominative DP at the right edge of the preceding clause, as in (12). It is not required, however, that the antecedent of a demonstrative be at the right edge; any post-verbal DP can antecede a demonstrative. In (13) the dative argument, *Vítězslavovi*, antecedes a demonstrative from a position which is not clause final.

<sup>6</sup> Lenertová 2001 accounts for the inability of topicalized elements to co-occur with fronted wh-phrases in a pre-clitic position by assuming that fronting both a topicalized element and focused a wh-phrase would lead to a feature clash. This issue is a topic for future research.

<sup>7</sup> Hajičová et al 1995, within the larger context of pronominal reference in Czech, suggest that demonstrative pronouns generally take elements in the *focus* part of the sentence as antecedents.

<sup>8</sup> Czech has a three way distinction in its demonstrative system: proximal, distal and neutral. The demonstrative pronoun is homophonous with the neutral demonstrative. These pronouns are marked for the gender and number of their antecedent and carry the appropriate case marking for their grammatical function.

- (13) ...do lokálu se jako tajfun vřítíl chlap<sub>1</sub> jako hora a dal<sub>1</sub>  
to bar refl-cl like typhoon stormed-in man like mountain and gave  
hajnému Vítězslavovi<sub>2</sub> takovou facku, že ten<sub>2/\*1</sub> skončil i s ruksakem  
forester Vítězslav.dat such smack that that ended-up even with backpack  
na zádech v rohu místnosti na zemi.  
on back in corner room.gen on floor  
‘...a mountain of a man<sub>1</sub> stormed into the bar like a typhoon and gave<sub>1</sub> forester  
Vítězslav<sub>2</sub> such a smack in the face that that<sub>2/\*1</sub> ended up, with his backpack still on his  
back, on the ground in the corner of the room.’ (Czech National Corpus)

A DP in the dative case antecedes the demonstrative; co-reference with the (null) subject of the previous clause is not possible.

On the basis of (12-13), one might wonder if a function of the demonstrative is to distinguish between two possible antecedents which share phi-features. However, the demonstrative pronoun is also commonly used when verbal morphology disambiguates between possible antecedents. In (14) the past tense form of the verb in the second clause unambiguously distinguishes between the two possible antecedents from the previous clause (the feminine null subject and the masculine dative object, *strýcovi* (‘uncle’)), but the demonstrative is still used.

- (14) ...podala ji strýcovi<sub>1</sub> a ten<sub>1</sub> ji vzal do ruky a šel s  
gave.fem it.fem uncle.dat and that.masc it.fem took.masc to hand and went with  
ní okamžitě k oknu...  
it.fem at-once to window put-on refl-cl glasses  
‘...she gave it to her uncle<sub>1</sub> and that<sub>1</sub> took it and went immediately to the window...’  
(Czech National Corpus)

Examples such as this one suggest that not only can the demonstrative pronoun disambiguate between arguments which share phi-features, but it can also indicate to the addressee that the subject of the current utterance is not continued from the previous one.

In all examples given above the element which is not available as an antecedent for the demonstrative is a left-edge nominative argument. An interesting question then is whether the relevant factor is linear position, grammatical function, or both. These factors are confounded in (12-14) since the disallowed antecedents are both left edge and nominative.

The example in (15) allows us to tease apart the issues of syntactic position and grammatical function. The accusative DP, *Harrison Ford*, is located in the left-edge position, while the nominative DP, *Calista Flockhart*, is found post-verbally. *Calista Flockhart* antecedes a demonstrative pronoun in the following clause, while *Harrison Ford* is unavailable as an antecedent.

- (15) *Harrisona Forda*<sub>1</sub> si po operaci domů odvezla na vozíku jeho  
Harrison Ford.acc refl-cl after operation to-home brought on wheelchair his  
nastávající, seriálová herečka *Calista Flockhart*<sub>2</sub>. *Ta*<sub>2/\*1</sub>/*Ten*<sub>1</sub> se nyní  
fiance serial actress Calista Flockhart.nom that.fem/that.masc refl-cl now  
velice těší...  
much looks-forward-to  
‘Harrison Ford<sub>1</sub> was taken home in a wheelchair after his operation by his fiancé<sub>2</sub>,  
serial actress Calista Flockhart. That<sub>2/\*1</sub> is looking forward to...’ (Dnes, 9/11/03)

In this example, as opposed to (12-14), a nominative argument at the right edge antecedes the demonstrative: what is relevant to the demonstrative is not grammatical function, but, rather, syntactic position. A generalization about antecedents of the demonstrative pronoun is now possible. Recall that the left edge position is associated with a topic interpretation (in the absence of rising intonation).

(16) The antecedent of a demonstrative cannot refer to a *topic*.

An initial definition of *topic* is provided in (17).

(17) *Topic*: An XP in [Spec, FinP].

In examples (12-15) the antecedent for the demonstrative is in a post-verbal position. If the generalization in (17) is correct, there should be examples in which the antecedent for a demonstrative occurs preverbally, but not at the left edge. In fact, DP's which occur between the clitic and the verb (a position generally associated with an 'old information' interpretation) can also antecede demonstratives.

(18) *Mladá žena se nasilníkovi<sub>1</sub> bránila, ten<sub>1</sub> jí však bat'oh*  
 young woman refl-cl mugger.dat defended that her however backpack  
*nakonec vyrval z rukou...*  
 at-end took from hand.instr  
 'The young woman defended herself against the mugger<sub>1</sub>; that<sub>1</sub>, however, in the end,  
 took her backpack...' (Czech National Corpus)

In (18) *nasilníkovi* ('the mugger'), located between the clitic and the verb, antecedes a demonstrative pronoun in the following clause. This example shows that it is only the left edge position which is restricted.

Clitic pronouns are also available as antecedents for demonstrative pronouns.

(19a) *...chtěli dva anglicky mluvící cizinci po řidiči<sub>1</sub> dvě jízdenky*  
 wanted two English speaking foreigners after driver two tickets  
 (b) *a dali mu<sub>1</sub> dvoutisícikorunovou bankovku.*  
 and gave him.cl two-thousand-crown note  
 (c) *„Ten<sub>1</sub> jim však nedal jízdenky, ale ani nevrátil peníze,“ řekl Vlkan.*  
 that them however neg-gave tickets but neither neg-returned money said Vlkan  
 '...two English speaking foreigners wanted two tickets from the driver and gave him a  
 2,000 crown note. "That, however, did not give them tickets nor return their money,"  
 said Vlkan.' (Dnes 3/12/03)

Clitics can, generally, antecede demonstratives, as shown in (19). Assuming that the node dominating the argument position associated with the clitic is not at the left edge, this example provides further support for (16-17).

The generalization presented above makes the correct predictions for the range of data presented in (12-15) and (18-19). However, additional data in the following section suggest that further restrictions on potential antecedents of demonstratives are necessary.

### 3.1 Contrastive Topics

In (20), a left edge contrastive topic, differentiated from a left edge topic by an intonational rise, antecedes a demonstrative pronoun (see also Lenertová 2001, Hajičová et al 2002).

- (20a) ...*a paní Moutelíková řekla v krámě Irenině matce, že jsme dobrá rodina a aby si mě Irena držela, protože jsem takový vážný a rozumný,*  
and Mrs. Moutelíková said in shop Irena's mother that are.1pl good family and  
*so-that refl-cl me.acc Irena held because aux.1sg such serious and good*
- (b) *a ZDENĚKA<sub>1</sub> nebral nikdo vážně, poněvadž ten<sub>1</sub> byl bůhvídko...*  
and Zdenek.acc neg-take no-one seriously because that was god-only-knows  
'...and Mrs. Moutelikova said to Irena's mother in the store that we are a good family  
and Irena should hold on to me because I am serious and good and Zdeněk<sub>1</sub> no one  
ever took seriously because that<sub>1</sub> is a 'God-only knows'...' (Kresin 1994: (37))

The definition in (17) is not fine-grained enough to distinguish a contrastive topic from a topic; both occur in [Spec, FinP]. I argue that contrastive topics differ from topics both in the feature associated with their leftward movement and in their discourse function. The definition of *topic* is modified in (21).

- (21) *Topic*: An XP associated with a [T] feature in [Spec, FinP].

This new definition, in conjunction with the generalization in (16), makes the correct predictions for the example in (20). The DP, *Zdeněk*, occupies [Spec, FinP], but is not associated with the feature [T], but rather with a feature attracting DP's which are interpreted contrastively, [F]. Note that reference to structural position (and the associated features) is necessary. Referring solely to linear order would not make the correct predictions since both topics and contrastive topics are located at the left edge.

Contrastively topicalized DP's are associated with a particular discourse function which distinguishes them from left edge topics. Hajičová et al 2002 argue that contrastive topicalization is felicitous when the entity denoted by the dislocated element stands in an alternative set relation to an entity introduced in the previous discourse (see also Ward and Prince 1991; Prince 1997; Büring 1999; Gregory and Michaelis 2001; Steedman 2002). An example from the Switchboard corpus in (22) illustrates this.

- (22a) Most rap, I don't like.  
(b) That kind, I kind of enjoy.

The referent of the DP, *that kind*, stands in an alternative set relation to the set containing *most rap*. The previous context for (22a) is not given, so nothing can be said about the topicalization of *most rap*. In (20b) there is an intonational rise associated with the left edge DP, *Zdeněk*, and the entity it refers to stands in an alternative set relation to the set *suitors of Irena*.

Contrastive topics felicitously antecede demonstrative pronouns as predicted by the modified generalization in (21). I have argued that these elements differ both discursively and syntactically from left edge topics which are disallowed from anteceding demonstrative pronouns. A final restriction on the antecedents of demonstratives is introduced in the next section.

### 3.2 Bringing in Centering Theory

Data presented in this section show that there is another restriction on antecedents of demonstrative pronouns. In addition to being sensitive to the structural position of their antecedent, demonstrative pronouns are also sensitive to the antecedent's relative prominence in the overall discourse. An adequate characterization of this is the notion of topic associated with *backward looking centers* in Centering Theory (Grosz, Joshi and Weinstein 1983; Grosz, Joshi and Sidner 1986, 1995).

Considered here is an example in which more than one discourse entity has been realized as a pronoun, suggesting that more than one entity is *given* in the discourse. There are two entities in (23): *Petr* and *Jana*. In (23c) the DP's referring to both entities are pronominals; a null pronoun refers to *Jana* and a dative clitic to *Petr*. Can a demonstrative take either of these pronouns as its antecedent? The answer is no.

- (23a) *V sobotu šel Petr<sub>1</sub> do krámu.*  
in Saturday went Petr to store  
'On Saturday Petr<sub>1</sub> went to the store.'
- (b) *Po cestě potkal Janu<sub>2</sub>.*  
along way met Jana.acc  
'Along the way he<sub>1</sub> met Jana<sub>2</sub>.'
- (c) *Řekla<sub>2</sub> mu<sub>1</sub> o svém novém děťátku.*  
told.fem him.dat about self's new child  
'She<sub>2</sub> told him<sub>1</sub> about her new child.'

The infelicity of (23d) can be accounted for by the generalization presented in the previous section.

- (23d) *#Ta<sub>2</sub> už musela odejít.*  
that.fem already must.fem leave.inf  
'She<sub>2</sub> had to leave.'

If we assume that the null pronoun referring to *Jana* in (23c) is located in [Spec, FinP], it is unavailable as an antecedent for a demonstrative pronoun.

However, it is also infelicitous to continue the discourse in (23a-c) with a demonstrative pronoun referring to *Petr*, as in (23d').<sup>9</sup>

- (23d') *#Ten<sub>1</sub> už musel odejít.*  
that.masc already must.masc leave.inf  
'He<sub>1</sub> had to leave.'

The infelicity of this example is surprising if we assume that the DP associated with the clitic pronoun in (23c) is not at the left edge of the clause. There is nothing in the analysis presented so far that would predict the infelicity in (23d').

Why is it possible for the referent of a dative clitic to antecede a demonstrative in (19c), but not in (23d')? Considering the previous utterances provides clues. In (19) the

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<sup>9</sup> A felicitous continuation in both cases would contain a null pronoun in place of the demonstrative.

referent of the demonstrative, *the driver*, is referred to twice in the previous discourse, both times in an oblique case (object of a preposition and in the dative). In contrast, in (23) the referent of the dative clitic, *Petr*, is realized as the subject of both (23a-b).

The Centering Theory notion of backward looking center (Cb) captures this difference in discursal status between the referents of the dative clitics in (19b) and (23c). Beaver 2003 uses the Centering Theory notion of Cb as the basis for his definition of *topic*:

- (24) The *topic* [Cb] of a sentence is the entity referred to in both the current and the previous sentence, such that the relevant referring expression in the previous sentence was minimally oblique. If there is no such entity, the topic is undefined.  
(Beaver 2003: (3))

Minimally oblique is defined by Beaver 2003, following standard Centering Theory assumptions, in terms of grammatical function: nominative arguments are the least oblique, followed by objects, then adjuncts. For an entity to be the Cb of a sentence it must be referred to in both the current and previous sentences and be realized in the previous sentence by the DP with the highest grammatical function.

Centering Theory was devised to predict pronoun reference in English. Since Czech differs from English in that word order is determined by discourse factors rather than grammatical function, I propose to change the definition of backward looking center to make reference to structural position. The proposed modification is given in (25).

- (25) The *topic* [Cb] of a sentence is the entity referred to in both the current and the previous sentence, such that the relevant referring expression in the previous sentence was maximally structurally salient. If there is no such entity, the topic is undefined.

A structural salience scale in which [Spec, FinP] is maximally salient is proposed: [[Spec, FinP] > [Spec, IP] > [Spec, FP]...].<sup>10</sup> Under this definition of Cb *maximally salient* structural position rather than minimally oblique grammatical function determines the Cb of a sentence.<sup>11</sup> The entity which is realized in both the current and the previous sentence and is realized by a DP in the maximally salient structural position in the previous sentence is defined as the Cb. Contrastive topics, though they occur in [Spec, FinP], will not realize the Cb of their clause due to their discourse function. The entity denoted by a contrastively topicalized DP has not been mentioned in the previous discourse; it stands in a set relation to a previously mentioned entity.<sup>12</sup>

If the definition of Cb in (25) were incorporated into the definition of *topic*, it would be possible to explain the differences between (19) and (23).

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<sup>10</sup> I assume that the structural prominence of a clitic is determined by the position of the argument XP with which it is associated.

<sup>11</sup> Rambow 1993 argues for the relevance of linear order in determining discourse saliency in the *Mittelfeld* in German subordinate clauses.

<sup>12</sup> Overt mention is not, strictly speaking, necessary for the Cb. Walker et al 1998 write: 'An utterance U realizes a center c if c is an element of the situation described by U, or c is the semantic interpretation of some subpart of U.' I argue that the set relation between the entity denoted by the contrastively topicalized DP and an entity mentioned in the previous discourse is not adequate to satisfy the conditions on the Cb described by Walker et al 1998.

- (26) *Topic*: x is a discourse referent, y is an utterance: x is the topic of y if and only if x is the Cb of y or x is realized in [Spec, FinP] and associated with the feature [T] in the sentence corresponding to y.<sup>13</sup>

In (23c) the dative clitic realizes the Cb of its clause and is unavailable as an antecedent for a demonstrative pronoun. The entity referred to by *Petr* is the Cb because it is mentioned in both (23b) and (23c) and the expression referring to it in (23b) occurs in [Spec, FinP]. It is for this reason that the demonstrative pronoun is infelicitous in the discourse (23d'). Example (19) differs from (23) in an important way. The referent of the dative clitic in (19b) is not the Cb of its clause. The entity referred to in both (19a) and (19b) and which is in [spec, FinP] in (19a) is *the two English speaking foreigners*, not *the driver*. As a result, it is felicitous for the dative clitic to antecede the demonstrative.

Kameyama 1999 has argued for the relevance of two similar Centering Theory notions in predicting pronoun reference. In classic Centering Theory, the Cb is central to determining what patterns of pronominal reference are possible in a given utterance. Kameyama 1999 expands this and argues that reference to Cb alone is not adequate in predicting certain cases of pronominal reference. She argues that pronouns refer to the *maximally salient entity* of the previous utterance and defines *maximally salient entity* disjunctively, referring to two Centering Theory notions: Cb and the preferred Center (Cp). Under her proposal, the Cb is defined as in (24). The Cp is defined as that entity realized by the minimally oblique expression type; *minimally oblique* is defined in terms of grammatical function. The definition of Cp differs from that of the Cb as it is defined with respect to a single utterance. Within the Centering Theory model, the Cp 'represents a prediction about the Cb of the following utterance' (Walker et al 1998: 3). For Kameyama, these two notions combine to define the *maximally salient entity* in an utterance, and she argues that unstressed pronouns in English are interpreted as referring to this entity. In some examples, the *maximally salient entity* is determinate, but in others it is not.

The entity, *Babar*, is both the Cb and the Cp of (27b). It is the Cb because the entity is referred to in both (27a-b) and is realized by the minimally oblique DP, the subject, in (27a). It is the Cp because it is also referred to by the minimally oblique DP in (27b), the nominative argument. Thus, the *maximally salient entity* in (27b) is determinate. As a result, the referent for the unstressed pronoun in (27c) is unambiguously *Babar*.

- |       |                                |                      |
|-------|--------------------------------|----------------------|
| (27a) | Babar went to a bakery.        | Babar(Cp) > Bakery   |
| (b)   | He greeted the baker.          | Babar(Cp/Cb) > Baker |
| (c)   | He pointed at a blueberry pie. | he:=Babar < Baker    |

In (28b) there is no unique *maximally salient entity* under Kameyama's proposal. The accusative pronoun referring to *Babar* realizes the Cb in (28b) because that entity is referred to in both (28a-b) and is referred to by the minimally oblique DP in (28a). However, the entity referred to by the DP *the baker* is the Cp in (28b) because it is referred to by the minimally oblique DP in (28b), the nominative argument. As a result, there is an indeterminacy in the interpretation of the subject pronoun in (28c).

- |       |                                |                         |
|-------|--------------------------------|-------------------------|
| (28a) | Babar went to a bakery.        | Babar > Bakery          |
| (b)   | The baker greeted him.         | Baker(Cp) < > Babar(Cb) |
| (c)   | He pointed at a blueberry pie. | he:= Baker <? Babar     |

<sup>13</sup> I thank Judith Aissen for help with the formulation of this definition.

Either *Babar* or *the baker* can be interpreted as antecedent of that pronoun.

Under Kameyama's analysis, two concepts are relevant to determining the *maximally salient entity*: the relative prominence of the entity in the discourse context (notion of Cb) and the grammatical function of its realization in the current utterance (notion of Cp).<sup>14</sup> The definition in (26) is conceptually related to Kameyama's proposal. As in her analysis, this definition of *topic* requires reference to both the status of an entity in the discourse (Cb) and the syntactic position of the DP referring to that entity in the current utterance. The example in (23) demonstrates that neither of these notions are by themselves adequate to predict the possible antecedents of demonstrative pronouns (and, by extension, topicality).

The definition of topic in (26) and the generalization in (16) ('The antecedent of a demonstrative cannot refer to a topic') combine to predict the distribution of the antecedents of demonstrative pronouns.

#### 4 Conclusion

It was shown that the distribution of antecedents of demonstrative pronouns correspond negatively to the distribution of topics in Czech: the antecedent of a demonstrative must be non-topical. As such, this distribution was used as a diagnostic to determine a definition of *topic* in Czech. Evidence was provided that a structural definition, rather than one based solely on linear order (Rambow 1993) or grammatical function (Centering Theory) is necessary.

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<sup>14</sup> Gundel 1998 also argues that Centering Theory should allow more than one Cb to be associated with an utterance.

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