

Against a Unified NP-Deletion Analysis of Pronouns: Evidence from Demonstratives in Czech

Jitka Bartošová^a and Ivona Kučerová^b

McMaster University, Hamilton, ON, Canada

^abartoj3@mcmaster.ca; ^bkucerov@mcmaster.ca

Abstract: We argue that not all demonstrative pronouns are of type *e*. Instead, some of them may be of type $\langle e, t \rangle$. While $\langle e, t \rangle$ pronouns are a grammatical realization of elided nP/NP, where nP/NP denotes a maximal nominal projection lacking D', pronouns of type *e* may come about via two distinct routes: (i) either they are an overt realization of an elided DP in the sense of Postal (1969), Elbourne (2005), etc. (with the caveat that the actual functional projection may represent a different set of ϕ -features, see Déchaine and Wiltschko [2002], among others); or (ii) they are a morphological realization of a more complex structure, namely, nP/NP + variable structure introduced by movement.

Keywords: internal structure of DP; pronouns; variable binding; Czech.

1. The Puzzle

This paper investigates the syntactic distribution and morphological and semantic properties of the Czech demonstrative pronoun *to*, with “it” being its closest English equivalent.¹ The generalized form of the pronoun is *t- α* , where *t-* roughly corresponds to the English *th-* (as in *this, that, there, then . . .*), while *- α* reflects ϕ -features of the actual surface form of the pronoun. Thus, we get a set of distinct surface forms based on this pattern, such as *t-en* (M.SG), *t-a* (F.SG), *t-o* (N.SG), *t-i* (MA.SG), etc.²

1 We would like to thank Susana Béjar, Bronwyn Bjorkman, Anders Holmberg, Radek Šimík, Markéta Ziková, the audiences at the University of Toronto Syntax Project and OLINCO 2014, and the OLINCO anonymous reviewer for their advice, questions, and suggestions. All remaining errors are our own responsibility.

2 We use the following abbreviations: M: masculine, F: feminine, N: neuter, MI: masculine inanimate, MA: masculine animate, SG: singular, PL: plural, PP: past participle, AUX: auxiliary, IMP: imperative, REFL: reflexive clitic, NOM: Nominative, INSTR: Instrumental, CL: 2nd position clitic.

The observation we begin our investigation with is that the surface morphological form of *TO* depends on where the pronoun appears in the syntactic structure. If it appears at the left periphery, then the pronoun may agree in ϕ -features with its linguistic antecedent. However, if the pronoun appears lower in the structure (for the lack of a better term, let us call the position “middle-field”), the form of the pronoun is invariable *TO*, i.e., *N.SG*, irrespective of the ϕ -features of its antecedent. Note that in Czech *N.SG* is the default morphological realization of weather predicates, i.e., a morphological default associated with failed Agree, instead of a morphological default associated with markedness. Our main empirical focus will be *TO* in so-called specificational copular clauses (Mikkelsen 2005; among others), though we will briefly touch upon other syntactic structures as well.

1.1 Invariable *To*

Examples in (1)–(2) demonstrate the basic distributional pattern of invariable *TO*. The examples in (1) show that if *TO* is in the middle-field, it may surface only in its invariable form. Agreement with its linguistic antecedent, here *kniha* “book.F.SG,” is not possible.

- (1) Dopsali jsme naši knihu.
finished.PP are.1PL our book.F.SG
“We have finished writing our book.”

- (a) Byl to román.
was.3.M.SG TO.N.SG novel.M.SG
“It was a novel.”

- (b) *Byla ta román.
was.3.F.SG TO.F.SG novel.M.SG
[intended: *TO*: the book]

- (c) *Byl ta román.
was.3.M.SG TO.F.SG novel.M.SG
[intended: *TO*: the book]

The examples in (2) further demonstrate that *TO* in the middle-field is fundamentally insensitive to the form of its linguistic antecedent. As the examples show, the form of the pronoun remains unaltered, irrespective of the gender and number of the antecedent, be it masculine singular as in *manžel* “husband” in (2a), feminine singular as in *dcera*

“daughter” in (2b), neuter singular as in *dítě* “child.M.SG” in (2c), or masculine animate plural,³ if the pronoun refers to all of them as in (2d).

- (2) Představila nám svého manžela, svou dospělou
 introduced-she to-us her husband.M.SG her adult
 dceru, a její malé dítě.
 daughter.F.SG and her small child.N.SG
 “She introduced her husband, her adult daughter, and her little child to us.”

- (a) Byl to statný čtyřicátník.
 was.M TO.N.SG well-built man-in-his-forties.M
 “He was a well-built man in his forties.”

- (b) Byla to vynikající studentka.
 was.F TO.N.SG excellent student.F
 “She was an excellent student.”

- (c) Byl to moc milý chlapeček.
 was.M TO.N.SG much sweet little-boy.M
 “He was a really sweet little boy.”

- (d) Byli to moc příjemní lidé.
 were.MA.PL TO.N.SG much nice people.MA.PL
 “They all were really nice.”

Before we proceed to the second part of the pattern, note that in the examples we have considered so far the copular verb never agrees with invariable TO. Instead, it strictly agrees with the full DP in Nominative, as witnessed by (3).

- (3) (a) Byl to moc milý chlapeček.
 was.M TO.N.SG much sweet little-boy.M
 (b) *Bylo to moc milý chlapeček.
 was.N TO.N.SG much sweet little-boy.M

³ In Czech if a plurality contains a referent in masculine animate, then it triggers masculine animate agreement, irrespective of the gender of other entities included in the plurality.

1.2 Agreeing To

The basic distribution of TO in the left periphery is shown in (4). As we see, if TO refers to its linguistic antecedent, here *kniha* “book. F.SG,” it must agree with it, as in (4a). In contrast, if the form is TO.N.SG, then the pronoun must refer to a situation, not to the linguistic antecedent, as seen in (4b). Examples in (5) demonstrate the same contrast for a masculine singular antecedent (*projekt* “project.M.SG”).

- (4) Dopsali jsme naši knihu.
 finished.PP are.1PL our book.F.SG
 “We have finished writing our book.”

- (a) Ta byla naším úkolem.
 TO.F.SG. was.3.F.SG our task.M.SG
 “It (= the book) was our task.”
 [TO: OK the book; *event; *situation]

- (b) To bylo naším úkolem.
 TO.N.SG. was.3.N.SG our task.M.SG
 “It (= that we finished writing the book) was our task.”
 [TO: *the book; *event; OK situation]

- (5) Dokončili jsme projekt.
 finished.PP are.1PL project.M.SG
 “We finished a/the project.”

- (a) Ten byl naším zadáním.
 TO.M.SG. was.3.M.SG our assignment.N.SG
 “It was our assignment.”
 [TO: OK: the project; *event; *situation]

- (b) To bylo naším zadáním.
 TO.N.SG. was.3.N.SG our assignment.N.SG
 “It was our assignment.”
 [TO: *the project; *event; OK situation]

The glosses to (4) and (5) make a distinction between the antecedent being a situation or an event. The rationale for making this distinction is demonstrated by examples in (6). As we see in (6a), if the pronoun is in the middle-field, it cannot refer to the situation of finishing writing the book. Instead, it refers to the event of writing the book,

irrespective of whether the event is finished or unfinished. In contrast, if the pronoun is in the left periphery, as in (6b), we obtain the opposite interpretation.

- (6) Dopsali jsme naši knihu.
 finished.PP are.1PL our book.F.SG
 “We have finished writing our book.”

- (a) Bylo to naším úkolem.
 was.3.N.SG TO. N.SG our task.M.SG
 OK: the event of writing a book (not finishing writing a book)
 * the situation of finishing writing the book

- (b) To bylo naším úkolem.
 TO.N.SG. was.3.N.SG our task.M.SG
 * the event of writing a book (not finishing writing a book)
 OK: the situation of finishing writing the book
 “It was our task.”

Even though the difference is subtle, examples in (7)—a variant of (6) enriched by contextual information—highlights the interpretive difference. Since the middle-field invariable TO in (7a) refers to the event of writing the book, the continuation with the boss objecting to us finishing the book is felicitous. In contrast, since the left-peripheral variant of the pronoun, as in (7b), strictly requires the whole proposition (or more precisely, the minimal situation established by the proposition) as its antecedent, the same continuation becomes contradictory.

- (7) (Context: our task was to write a book but we were explicitly asked not to finish it in order to extend the funding)
 We have finished writing our book.

- (a) Bylo to naším úkolem,
 was.3.N.SG TO. N.SG our task.M.SG
 OK: ale šéf se na nás teď zlobí, protože jsme to neměli dopsat.
 “but our boss is upset because we were not supposed to finish it.”

- (b) To bylo naším úkolem,
 TO.N.SG. was.3.N.SG our task.M.SG
 # ale šéf se na nás teď zlobí, protože jsme to neměli dopsat.
 “but our boss is upset because we were not supposed to finish it.”

Before we further proceed with investigating the paradigm, let us make a comment on the form of the full DP in Czech copular clauses. The reader familiar with the Slavic morphology might have noticed that the case of full DPs in our examples switches between Nominative and Instrumental. Though we do not fully understand what governs the distribution of case, what matters is that the case form seems to be optional, at least in a subset of examples we are interested in. For instance, the Instrumental DP in (6) (*naším úkolem*) can freely be replaced with its Nominative counterpart *náš úkol*, as in (6') below, without any change in the meaning and the properties of the pronoun.

(6') Dopsali jsme naši knihu.
 finished.PP are.1PL our book.F.SG
 “We have finished writing our book.”

(a) Byl to náš úkol.
 was.3.M.SG TO. N.SG our task.NOM.M.SG
 OK: the event of writing a book (not finishing writing a book)
 * the situation of finishing writing the book

(b) To byl náš úkol.
 TO.N.SG. was.3.M.SG our task.NOM.M.SG
 * the event of writing a book (not finishing writing a book)
 OK: the situation of finishing writing the book
 “It was our task.”

The reason we chose Instrumental in the previous examples is because that if we use Nominative, the agreement of the copula changes. As the examples in (6) and (6') illustrate, if TO agrees with its linguistic antecedent in its ϕ -features, then the copula agrees with the ϕ -features of TO. Otherwise the copula agrees with the full DP in Nominative. In contrast, if there is no noun phrase the copula could agree with (either full DP in Nominative, or agreeing TO), then the copula surfaces with default ϕ -feature agreement (N.SG).

1.3 Neuter Is Special

As we have seen in (4) and (5), TO agrees in ϕ -features with its linguistic antecedent, be it feminine, or masculine, only if TO is in the left periphery. Crucially, the pattern changes if the antecedent is in neuter, as in (8). As these examples demonstrate, if the linguistic antecedent is in neuter singular, the left peripheral TO cannot agree with it. The conclusion holds irrespective of whether the copular verb is in neuter and the full DP is in Nominative, as in (8a), or whether the copular verb agrees with the DP in Nominative as in (8b), or whether the DP is in Instrumental and the copula is in neuter

as in (8c). Even though (8b) is slightly better than the other two examples, none of the logically possible combinations is fully grammatical.

- (8) Přivedla do obchodu malé dítě.
 brought-she to store small child.N
 “She brought a small child to the store.”
- (a) *To bylo její synovec.
 TO.N.SG. was.N her nephew.M.NOM
- (b) ??To byl její synovec.
 TO.N.SG. was.M her nephew.M.NOM
- (c) *To bylo jejím synovcem.
 TO.N.SG. was.N her nephew.M.INSTR

Interestingly, the pattern in (8) does not result from a general ban on TO in neuter to refer to a linguistic antecedent. If TO is the subject of an adjectival predicate, or an argument of a non-copular verb, it may freely refer to a linguistic antecedent. As we see in (9a), if TO is the subject of an adjectival predicate and if it surfaces at the left periphery, it may either refer to the neuter antecedent *dítě* “child.N,” or it may refer to the situation of bringing the child to the store. (9b) exemplifies that TO as the subject of a non-copular verb may refer to a neuter antecedent as well.

- (9) Přivedla do obchodu malé dítě.
 brought-she to store small child.N
 “She brought a small child to the store.”
- (a) To bylo smutné.
 TO.N.SG was.N sad.N
 “(S)he was sad./It was sad.”
 [TO: OK the child; OK the situation]
- (b) To plakalo.
 TO.N.SG cried.N.SG
 “(S)he cried.”

Note that there is no interesting difference between the linguistic antecedent being animate or inanimate. As (10) shows, we obtain the same contrast with inanimate objects. If TO is the subject, (10a), or the object, (10b), of a non-copular verb, it may refer to an

inanimate neuter antecedent. If, however, TO appears in a copular clause of the type we saw before, it cannot refer to its antecedent anymore, (10c–d).⁴

(10) Paní přijela do obchodu autem, . . .
 Lady arrived to store car.N.INSTR
 “The lady drove to the store . . .”

(a) Ale to se rozbilo.
 But TO.N.SG REFL broken.N
 “but it (= the car) broke.”

(b) Ale to cestou zpátky rozbila.
 But TO.N.SG way back she-broke
 “but she broke it on the way back.”

(c) *To bylo nový model.
 TO.N.SG was.N new model.M
 “it was a new model.”

4 In (i) and (ii) we see possible continuations of (9) and (10), respectively, that seem to violate the generalization we put forward in the main text. In these examples, the full DP is a proper name (or a rigid designator like *mother* or *father*), i.e., a DP which must be referential (type *e*), unlike the full noun phrases we have considered so far.

(i) To byla Marie.
 TO.N.SG was.F Marie.F
 “It was Mary.”

(ii) To byl Mercedes.
 TO.N.SG was.M Mercedes.M
 “It was Mercedes.”

As we will argue in Section 2, the behavior of TO depends on its semantic type, and the examples in (i) and (ii) are crucially different from the core cases of specificational copular clauses discussed in the main text precisely in this respect. (ii) is an example of an equative clause, which has been argued to contain two referential arguments (Mikkelsen 2005; among others). Consequently, TO is semantically an argument similar to TO in (9b). In contrast, TO in (i) refers to a minimal situation involving a child being brought to the store by the woman. For reasons of space, we cannot go into more detail to support this claim; hopefully it may suffice if we point out that unlike the other cases we have considered in which TO referring to a child must have been translated to English as *he* or *she*, here the appropriate pronoun is *it*, which in English refers either to an inanimate object or a situation, but never to an animate antecedent.

(d) ??To	byl	nový	model.
TO.N.SG	was.M	new	model.M
“it was a new model.”			

To summarize our observations so far, there are two main properties that need to be accounted for. First, if TO agrees with its linguistic antecedent in ϕ -features, then TO must be in the left periphery. Second, there is an unusual restriction on the agreement properties of TO in the left periphery, namely, in specificational copular clauses TO may agree with a linguistic antecedent in masculine or feminine, but never in neuter. Interestingly, the restriction on agreement seems to hold only in copular clauses. There is no such restriction on neuter antecedents if neuter singular TO refers to a situation, or if it is an argument of an adjectival predicate or a non-copular predicate, or if it appears in an equative copular clause.

In this paper, we focus on the syntax and semantics of two TOS, namely, left-peripheral TO, as seen in (4), (5), (8), and (9), and invariable TO, which occurs in the middle-field, (1)–(2). We will argue that there are two types of left-peripheral TO: one of them agrees with its linguistic antecedent, while the other one refers to a minimal situation established by the previous discourse. We will argue that agreeing TO arises via movement of invariable TO. For reasons of space, we will leave invariable TO referring to events, and the difference between TO referring to a minimal situation and TO referring to an event, (6)–(7), for future research.

2. Untangling the Puzzle: *e* vs. $\langle e, t \rangle$

In order to analyze the proposed pattern, we will proceed in two steps. First, we will address the question of the difference between invariable TO and agreeing TO in an argumental position. With that being our baseline, we will then proceed to the question of the difference between agreeing TO in the left periphery and agreeing TO in an argumental position.

2.1 Towards a Morpho-semantic Generalization

We start with the observation that a definite noun phrase in an argumental position semantically denotes an individual (type *e*). This is not necessarily the case in copular clauses. In specificational and predicational copular clauses, nominal phrases, including definite ones, may denote a property (type $\langle e, t \rangle$) (Mikkelsen 2005; Pereltsvaig 2007; Rothstein 2012; among others). Based on this observation, we can conclude that if neuter TO agrees with its linguistic antecedent, then it is of type *e* (but see note 4). The question that interests us is what this conclusion might mean for the structure of such a pronoun.

Before we can answer this question, let us consider agreement properties of invariable TO. First, as we have seen, invariable TO in copular clauses cannot agree with its linguistic antecedent. Second, invariable TO cannot trigger agreement on the copular

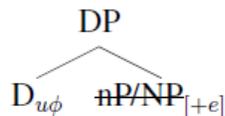
verb. We argue that this follows if invariable TO is ϕ -feature deficient: as such it cannot get its ϕ -features valued, neither can it value ϕ -features of a potential goal. If this is a correct conjecture, it follows that there is a correlation between semantic type and agreement properties of TO, namely, only TO of type *e*, i.e., TO in an argumental position, agrees with its linguistic antecedent. In contrast, we argue that neuter TO in copular clauses⁵ is of type $\langle e, t \rangle$, and consequently it cannot trigger Agree.⁶

If this generalization is correct, what is it about pronouns of type $\langle e, t \rangle$ that makes them ϕ -feature deficient?

In order to answer this question we will adopt two assumptions: (i) For a pronoun to be able to agree in ϕ -features with its linguistic antecedent, such a pronoun must have unvalued ϕ -features in the structure. (ii) Only D may introduce unvalued ϕ -features to the structure.⁷ It follows from these two assumptions that only a structure which contains D' projection may agree in ϕ -features with its linguistic antecedent.

Taking this conclusion into account, we argue that only argumental pronouns of type *e* have D' projection, i.e., they are elided DPs in the sense of Postal (1969) and Elbourne (2005).⁸ More precisely, it is the nP/NP part of the tree which is elided because it has a linguistic antecedent, and consequently it carries a [+e] feature in the sense of Merchant (2001), i.e., a feature that instructs phonology not to pronounce the structure if and only if an identical syntactic structure can be identified in the previous discourse. The actual morphological insertion is determined by the valued features on D and the [+e] feature that we argue is the source of the definiteness marking on the pronoun (i.e., the *t*- part of the pronoun). The corresponding syntactic structure is given in (11). What appears to be a neuter singular form is a result of the lack of ϕ -features in the representation.

(11) The proposed structure of argumental TO:



5 We put aside situation-referring TO for now but will come back to it later.

6 See Hellan (1986), Rullmann and Zwart (1996), Danon (2012), and den Dikken (2014), among others, for a similar empirical generalization.

7 In principle, idiosyncratic ϕ -features might occasionally come valued from the lexicon, and consequently appear on lower functional heads (Kramer 2009; Kučerová 2014), but since pronominal ϕ -features must start as unvalued, they are introduced by D.

8 For instance, if the discourse contains [_{DP} a [_{nP/NP} girl]], then the pronoun *she* corresponds to [_{DP} the [_{nP/NP} girl]_[+e]], with only the nP/NP having an identical antecedent because D is indefinite in the antecedent but definite in the latter structure. Consequently, the lexical content of NP is not realized by the PF module. Instead, it is only the ϕ -features on D in the context of the elided NP that are morphologically realized as a pronoun.

In contrast, we argue that invariable *TO* lacks the *D'*-layer which is necessary for the pronoun to be able to agree with its linguistic antecedent. This type of pronoun contains only the *nP/NP* projection that gets elided because of the presence of the [+*e*] feature. More precisely, the pronoun is a default morphological realization of [+*e*] in a nominal context.

(12) $nP/NP_{[+e]} \Rightarrow$ invariable *TO*

The proposed distinction gives us the relevant correlation between agreement and semantic types. If we assume that *D'* is necessary for the pronoun to be interpreted as an individual (Winter 2001; among others), and if *D* is the structural source of unvalued ϕ -features, only a structure that contains *D* can agree with its antecedent. Since invariable *TO* is *nP/NP*, it follows that it cannot agree with a linguistic antecedent because it does not have *D*, i.e., it does not have ϕ -features that could be valued. Furthermore, only argumental neuter *TO* has *D*, i.e., it contains ϕ -features that can be valued, and consequently it can trigger agreement on the verb.

2.2 The Second Part of the Puzzle: Agreeing *To* in the Left Periphery

Recall that if *TO* appears in the left periphery it may agree with its linguistic antecedent, but only if it is masculine or feminine.⁹ This pattern raises at least two questions. First, is agreeing *TO* of type *e*, i.e., the same type as an argumental pronoun? Second, if so, why does the left-peripheral *TO* agree with its antecedent in masculine and feminine, but not in neuter?

To answer the first question is not straightforward. In some respects, this pronoun shares distributional properties with other noun phrases denoting individuals. For instance, it may be an argument in a predicative copular clause, as in (13a), i.e., it may appear in a syntactic position which can be occupied by a personal pronoun, as in (13b), a definite individual denoting DP, as in (13c), but not by its invariable counterpart, as witnessed by (13d–e). The problem is that we cannot be sure that the pronoun in (13a) is not the argumental version of *TO*. Unfortunately, we do not really know at this point how to tell the two types apart. Even though the correlation is suggestive, it is far from conclusive.

(13) Představila nám svého manžela.
 introduced.PP.F.SG to-US her husband.M.SG
 “She introduced her husband to us.”

⁹ Putting aside the situational and argumental versions, of course.

- (a) Ten byl chytrý.
 TO.M.SG was.M.SG smart.M.SG
 “He is/was smart.”
- (b) On byl chytrý.
 He was.M.SG smart.M.SG
 “He is/was smart.”
- (c) Její manžel byl chytrý.
 Her husband was.M.SG smart.M.SG
 “Her husband is/was smart.”
- (d) *Bylo to chytré.
 was.N.SG TO.N.SG smart.N.SG
 (intended: “He is/was smart.”)
- (e) *Byl to chytrý.
 was.M.SG TO.N.SG smart. M.SG
 (intended: “He is/was smart.”)

Even though we cannot determine for sure the semantic type of the left peripheral agreeing TO, there are distributional facts we can establish with more certainty. The fact crucial for the analysis to be proposed is that agreeing TO is rather high in the structure. Specifically, it is higher than TP and most likely higher than CP. For concreteness, we propose that agreeing TO is in Top(ic)P. The evidence comes from the observation that agreeing TO cannot, unlike its invariable counterpart, be embedded in exclamative clauses, which disallow CP recursion. At the same time, it may appear in imperatives with a very similar meaning. We see the contrast in (14). (14a) is the baseline, with the target antecedent *podporu* “welfare.F.SG” realized as a full DP. (14b) shows that if the full DP is replaced with invariable TO, the exclamative clause is grammatical. If, however, we attempt to replace the full DP with agreeing TO, as in (14c), the sentence becomes ungrammatical. That there is no intrinsic semantic problem with having agreeing TO in the structure is demonstrated by (14d); since the imperative structure in (14d) does not impose restrictions on embedding the way (14c) does, agreeing TO in the imperative structure is grammatical.

- (14) (a) Ne abys zase utratil všechnu podporu.
 Not that-AUX.2SG again spent all welfare.F.SG
 “Just don’t spend the whole welfare payment again.”

- (b) Ne abys to zase utratil.
 Not that-AUX.2SG TO.N.SG again spent
 “Just don’t spend it again.”
- (c) *Ne abys tu zase utratil.
 Not that-AUX.2SG TO.F.SG again spent
 “Just don’t spend it again.”
- (d) Tu zase ne-utrat’.
 TO.F.SG again not-spend.IMP
 “Don’t spend it again!”

As for situation-referring TO, since it is not at the center of our investigation, we only note that it is not subject to the same restrictions on embedding. Furthermore, since situation referring TO precedes 2nd position clitics and follows complementizers,¹⁰ we assume it resides in the TP domain. More precisely, we assume that situation referring TO is overt morphological mapping of a situational pronoun on T (Percus 2000; von Stechow and Heim 2007/2011). However, a full analysis supporting this claim will have to wait for another occasion.

3. Variables in Morphology

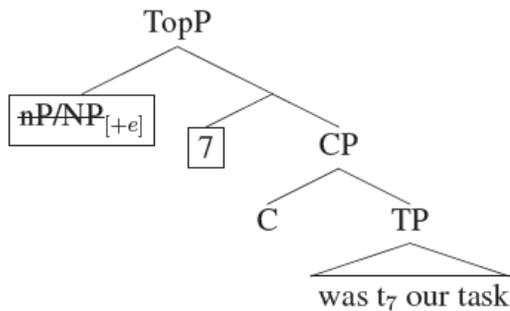
We argue that agreeing TO is an overt realization of a structure that arises via movement to TopP, as in (15). To be more precise, agreeing TO is a morphological exponent of the moved pronominal nP/NP¹¹ and a λ -abstraction structure created by movement, analogically to relative pronouns in relative clauses (Hulsey and Sauerland 2006; among others). The boxes in the structure in (16) indicate which part of the structure agreeing TO is the overt realization of. We follow the notation in Heim and Kratzer (1998); the number 7 corresponds to the index created by λ -abstraction triggered by movement of invariable TO, i.e., the elided nP/NP_[+e] structure indicated by the higher box.

10
 (i) Petr se rozešel s Marii,
 Petr refl broke-up with Marie
 ale to se mi nelíbilo.
 but TO.N.SG refl.cl me.CL not-liked
 “Petr broke up with Marie but I didn’t like it.”

11 Pronominal nP/NP would have been realized as invariable TO, if it did not undergo movement to the left periphery.

(15) TO λx . x was our task

(16) The morphological mapping of agreeing to



We assume that for mapping to take place, there needs to be a trace-conversion-like mechanism in the structure (Fox 1999; 2003; Sauerland 2005; Elbourne 2005), followed by a variable insertion. The actual morphological realization is effectively a determiner replacement in the sense of the work cited above.

(17) Trace conversion mechanism

- (a) variable insertion: (Det) Pred \rightarrow (Det) [Pred λy (y=x)]
- (b) determiner replacement: (Det) Pred \rightarrow the [Pred λy (y=x)]

The work on trace conversion argues that after movement takes place, a variable is inserted in the position of the trace. In the next step, the structure is enclosed by a determiner that introduces the obligatory definite interpretation. Our proposal is different in that we are not concerned with the trace in and of itself, but instead we concentrate on the morphological mapping of the variable structure created by movement. Thus, we combine the insight of work on the interpretation of traces with insight on the morpho-syntactic nature of relativizers in relative clauses.

Notice that adopting the trace-conversion mechanism in and of itself does not explain the agreement properties of the moved pronoun. Even though the determiner replacement provides the relevant semantic interpretation, it does not create a D node in the sense of a ϕ -feature bundle. Consequently, since there is no D in the structure, there is no direct source of valuable ϕ -features. We argue that the only possible input for agreement mapping is the variable induced by movement.

This, of course, raises a non-trivial question of whether a variable can be morphologically realized. We argue that variables may indeed be overtly morphologically realized in a way parallel to ϕ -feature Agree, but it may be done only by ϕ -features that are semantically modeled as variables, i.e., features with a representation accessible to the interpretive component.

Recall that the empirical question we investigate is why agreeing TO may agree with its linguistic antecedent in masculine and feminine but not in neuter. While such a distinction is unexpected under a standard theory of ϕ -feature Agree, modeling the pronoun as an overt realization of a variable structure opens the possibility of finding a difference in the featural representation of gender features that might be relevant for the semantic component. In other words, we need to ask whether there is any interesting difference between masculine and feminine vs. neuter that might be relevant for the pattern we investigate.

The most straightforward solution would be to posit that neuter is $[-\text{GENDER}]$ and $[-\text{GENDER}]$ cannot be probed by a head that searches for ϕ -features. The obvious problem is that if TO appears in an argumental position then there is no problem with TO agreeing with ϕ -features of its antecedent, so this cannot be correct. Furthermore, we cannot attribute argumental agreement to something like $[\text{+PERSON}]$, because as we have seen in (10a–b), neuter argumental TO may refer to objects as well. Instead, we propose that the relevant distinction needs to take into account both $[\text{GENDER}]$ and $[\text{PERSON}]$. The feature geometry we assume for Czech is given in (18).

- (18) Proposed feature geometry
- (a) F: $+\text{GENDER}$ ($? \pm\text{PERSON}$)¹²
 - (b) N: $-\text{PERSON}$
 - (c) MI: $-\text{PERSON}$, $-\text{GENDER}$
 - (d) MA: $+\text{PERSON}$, $-\text{GENDER}$

We argue that there is a fundamental difference between PERSON and GENDER which is relevant for the pronouns we investigate here. While, GENDER features are semantically interpreted as variables, i.e., their interpretation strictly depends on their semantic assignment (Heim 2008; Sudo 2012; among others), PERSON features are crucially different in that they are interpreted as an index, i.e., they do not correspond to a variable in the same sense as GENDER features do.

We argue that this interpretive distinction has a morpho-syntactic consequence. Since only a GENDER feature is a variable, only a $[\pm\text{GENDER}]$ feature can morphologically realize a variable induced by movement. Consequently, masculine and feminine features are a possible morphological realization of a variable induced by movement. In contrast, neuter cannot morphologically realize a variable induced by movement because technically it is not a GENDER feature, but $[-\text{PERSON}]$ feature. It follows that left-peripheral TO can agree with its linguistic antecedent in masculine and feminine but not

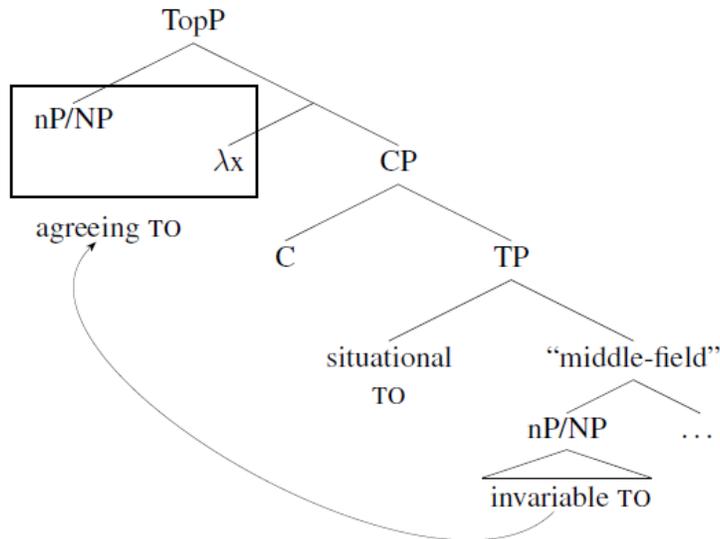
¹² We are not aware of any data that would make it clear whether both $[\pm\text{PERSON}]$ features are necessary for the representation of feminine, in parallel to the representation of masculine. It is possible that having $[-\text{PERSON}]$ feature is sufficient. Crucially, either of these two representations makes the same prediction for the case in hand.

in neuter, as only masculine and feminine correspond to a feature representation that may morphologically realize a variable.

4. Conclusion

We have investigated the syntactic distribution of the Czech pronoun *TO* which as we argued corresponds to three distinct syntactic structures. The distinctions are schematized in (19). While we assume that *TO* referring to a situation is located in the TP domain, invariable *TO* and agreeing *TO* are related by movement. While invariable *TO* is an overt realization of nP/NP elided in the middle-field, agreeing *TO* is a result of overt morphological mapping of such a deleted nominal structure and a variable structure induced by movement to the left periphery.

(19) *Structural representation of the three distinct to*



The proposal has two major theoretical consequences. First, we argue that pronouns can be of varied semantic types, and the semantic distinctions correlate with distinct syntactic structures. This conclusion goes against the idea put forward by Postal (1969) and Elbourne (2005), namely, that pronouns are uniformly based on elided DPs. We provided empirical evidence that only a subset of pronouns may be derived in this way. Crucially, some pronouns are based on definite nP/NPs. Consequently, there is more than one derivational strategy to derive demonstrative pronouns, even within one language. Second, we have seen that referential and predicative definites/pronouns are at least in some instances related by movement, which opens the possibility of compositional treatment of at least some cases of type shifting in the nominal domain.

Funding Acknowledgement

This work has been funded by SSHRC Canada Insight Grant No. 435-2012-1567 “The relation between definite and indefinite articles and free word order: a typological study” awarded to Ivona Kučerová and by SSHRC Canada Insight Grant No. 435-2013-1756 “Copular Agreement Systems” awarded to Susana Bejar (PI), Arsalan Kahnemuyipour and Ivona Kučerová.

Works Cited

- Danon, Gabi. 2012. “Nothing to Agree On: Non-agreeing Subjects of Copular Clauses in Hebrew.” *Acta Linguistica Hungarica* 59 (1–2): 85–108.
- Déchaine, Rose-Marie, and Martina Wiltschko. 2002. “Decomposing Pronouns.” *Linguistic Inquiry* 33 (3): 409–42.
- den Dikken, Marcel. 2014. “The Attractions of Agreement.” A paper presented at the Agreement ϕ workshop, Recife, February 7.
- Elbourne, Paul. 2005. *Situations and Individuals*. Cambridge, MA: MIT Press.
- von Stechow, Kai, and Irene Heim. 2007/2011. “Lecture Notes on Intensional Semantics.” Ms. MIT.
- Fox, Danny. 1999. “Reconstruction, Binding Theory, and the Interpretation of Chains.” *Linguistic Inquiry* 30: 157–96.
- Fox, Danny. 2003. “On Logical Form.” In *Minimalist Syntax*, edited by Randall Hendrick, 82–123. Malden, MA: Blackwell.
- Heim, Irene. 2008. “Features on bound pronouns.” In *Phi Theory: Phi-Features Across Modules and Interfaces*, edited by Daniel Harbour, David Adger, and Susana Béjar, 35–56. Oxford: Oxford University Press.
- Heim, Irene, and Angelika Kratzer. 1998. *Semantics in Generative Grammar*. Oxford: Blackwell.
- Hellan, Lars. 1986. “The Headedness of NPs in Norwegian.” In *Features and Projections*, edited by Pieter Muysken and Henk van Riemsdijk, 89–122. Dordrecht: Foris.
- Hulsey, Sarah, and Uli Sauerland. 2006. “Sorting Out Relative Clauses.” *Natural Language Semantics* 14: 111–37.
- Kramer, Ruth. 2009. “Definite Markers, Phi-Features, and Agreement: A Morphosyntactic Investigation of the Amharic DP.” PhD diss., University of California, Santa Cruz.
- Kučerová, Ivona. 2014. “Defective Agree Chains in Italian Nominal Inflection.” A paper presented at the 44th Linguistic Symposium on Romance Languages, London, Ontario, May 3.
- Merchant, Jason. 2001. *The Syntax of Silence: Sluicing, Islands, and the Theory of Ellipsis*. Oxford: Oxford University Press.
- Mikkelsen, Line. 2005. *Copular Clauses: Specification, Predication and Equation*. Amsterdam: John Benjamins.

- Percus, Orin. 2000. "Constraints on Some Other Variables in Syntax." *Natural Language Semantics* 8 (3): 173–229.
- Pereltsvaig, Asya. 2007. *Copular Sentences in Russian: A Theory of Intra-clausal Relations*. Dordrecht: Springer.
- Postal, Paul M. 1969. "On So-Called 'Pronouns' in English." In *Modern Studies in English*, edited by David A. Reibel and Sanford A. Schane, 201–44. Englewood Cliffs: Prentice-Hall.
- Rothstein, Susan. 2012. "Reconsidering the Construct State in Modern Hebrew." *Rivista di Linguistica* 24 (2): 227–66.
- Rullmann, Hotze, and Jan-Wouter Zwart. 1996. "On Saying Dat." *Language and Cognition* 5: 179–94.
- Sauerland, Uli. 2005. "Don't Interpret Focus! Why a Presuppositional Account of Focus Fails, and How a Presuppositional Account of Givenness Works." In *Proceedings of SuB 9*, edited by Emar Maier, Corien Bary, and Janneke Huitink, 370–84. Nijmegen: Nijmegen Centre of Semantics.
- Sudo, Yasutada. 2012. "On the Semantics of Phi Features on Pronouns." PhD diss. Massachusetts Institute of Technology, Cambridge, MA.
- Winter, Yoad. 2001. *Flexibility Principles in Boolean Semantics: The Interpretation of Coordination, Plurality, and Scope in Natural Language*. Cambridge: MIT Press, 2001.