On pragmatic demonstratives:
The case of pragmatic discourse anaphora in Czech[1]

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Abstract. This paper offers a novel syntactico-semantic treatment of canonical and pragmatic demonstratives (the latter type being exemplified by so called affective demonstratives) and within that frame provides an analysis of pragmatic anaphora in Czech. Pragmatic anaphora is understood as an anaphoric relation between the denotation of a demonstrative description and a previous utterance about that denotation. The theoretical proposal is that the syntactic and semantic structure of demonstratives consists of two parts: the D head, interpreted as the iota type shifter (i.e., as a Fregean definite article), and the Dem head, which conveys that the denotation of its nominal complement is related to some entity in extra-linguistic reality or discourse. Due to nanosyntactic principles (superset and elsewhere), demonstratives can either spell out the whole Dem+D structure (canonical demonstratives) or Dem alone (pragmatic demonstratives).

1. Introduction

Demonstratives (DEM) typically have a clear semantic contribution: they shift the property denoted by their NP complement to the single individual in its extension (relative to some situation), see (1). On this Fregean view, demonstratives are definite articles of sorts: even if their semantic contribution is more complex, they always have something like (1) at their core (Wolter, 2006; Elbourne, 2008). Examples of these, what I will call *canonical demonstratives* (whence DEM_{can}) are provided in (1-a) (deictic use) and in (1-b) (an anphoric use).

(1)   **Canonical demonstratives**
       $[[\text{DEM}_{\text{can}}\ \text{NP}_{\langle e,st\rangle}]] = \iota x[[\text{NP}]](x)(s)$ (for some situation s)
       a.   Look at that/this ($\approx$ the) man [GESTURE AT SOME MAN].
       b.   We met Senator Johnson. This ($\approx$ The) politician has been in office since 2011.

There are demonstratives, called here *pragmatic demonstratives* (DEM_{prag}), which defy this simple view because they do not change the core semantics of their NP complement: proper names remain proper names (2-a), generics remain generics (2-b), and indefinites remain indefinites (2-c).

(2)   **Pragmatic demonstratives**
       $[[\text{DEM}_{\text{prag}}\ \text{NP}]] = [[\text{NP}]]$
       a.   This ($\not\approx$ The) Henry Kissinger is really something!   (Lakoff, 1974: 347)

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b.	Those ($\not\approx$ The) IBM ThinkPads are quite popular.	(Bowdle and Ward, 1995: 33)
c.	. . . there was this ($\not\approx$ the) hippie, long-haired, slovenly.	(Prince, 1981: 233)

The present paper sets out to achieve two goals – an empirical and a theoretical one. On the empirical side, I will present data from Czech (novel in the formal literature), where pragmatic uses of demonstratives are particularly productive. Though affective demonstratives like (2-a) or (2-b) are well-attested in Czech and known since Mathesius (1926) (see section 4 for examples), I will concentrate on a discourse anaphoric use: a case of what one could call *pragmatic discourse anaphora*. The core data will be introduced in section 2. On the theoretical side, I will propose a new analysis of demonstratives, inspired by Elbourne (2008), Schwarz (2009), and Simonenko (2013), which, on the one hand, captures the intimate connection between demonstratives and definite articles and, on the other, offers enough flexibility to model the behavior of pragmatic demonstratives. The analysis (presented in section 3) is designed to capture the particular case of pragmatic anaphora in Czech, but section 4 will offer a speculation on how the analysis could be extended to pragmatic uses of demonstratives in general. Section 5 summarizes the paper and discusses some open issues.

2. Czech data

2.1. Background on the Czech demonstrative system

Czech has a whole variety of demonstrative expressions. The inflectional paradigm of the basic demonstrative determiner *ten* (to be glossed as DEM) is provided in Table 1.

	SG.MASC (ANIM)	SG.NEUT	SG.FEM	PL (MASC.ANIM)
NOM	ten	to	ta	ty (ti)
ACC	ten (toho)	to	tu	ty
GEN	toho	toho	té	těch
PREP	tom	tom	té	těch
DAT	tomu	tomu	té	těm
INSTR	tím	tím	tou	těmi

Table 1: The paradigm of the demonstrative determiner *ten*

Besides the determiner *ten* (which can function as a pronoun as well) there is a range of demonstratives for various ontological categories (summarized in Table 2): *tady* 'here' (locative proximal), *tam* '(to) there' (locative/directional distal), *sem* 'to here' (directional proximal), *tudy* 'via (t)here' (path), *tolik* 'so/this many/much' (amount), *teď* 'now' (temporal present), *tehdy* '(back) then' (temporal past), *tak* 'so' (manner), and *takový* 'such' (kind). Most of these demonstratives have a deictic/indexical use (the exception being *tehdy*) and many have an anaphoric use (in particular *ten, tam, tolik, tehdy, tak,* and *takový*). In addition, there are a number of morphemes that can modify these demonstratives (sometimes called "reinforcers"), with some gaps in the paradigm of

the different ontological categories: the postfixes *-hle* (deictic (proximal)) and *-to* (deictic proximal/anaphoric), and the semi-free morphemes *tady* 'here' (deictic proximal) and *tam* 'there' (deictic distal).[2] The last mentioned ones are demonstratives themselves, as can be seen by the capacity to be modified by *-hle*.[3]

	BASIC	DEIC(.PROX)	DEIC.PROX/ANAPH	DEIC.PROX	DEIC.DIST
DET/PRON	ten	ten**hle**	ten**to**	**tady**(hle) ten	**tam**(hle) ten
LOC.PROX	tady	tady**hle**	%tady**to**	*	*
LOC/DIR.DIST	tam	tam**hle**	%tam**to**	*	*
DIR.PROX	sem	sem**hle**	*	*	*
PATH	tudy	tudy**hle**	%tudy**to**	**tady**(hle) tudy	**tam**(hle) tudy
AMOUNT	tolik	%tolik**hle**	*	*	*
TEMP.PRES	teď	%teď**hle**	*	*	*
TEMP.PAST	tehdy	*	*	*	*
MANNER	tak	tak**hle**	tak**to**	%**tady** tak	*
KIND	takový	takový**hle**	takový**to**	%**tady** takový	*

Table 2: Demonstrative modifiers (reinforcers) as applied to different ontological categories

For a comprehensive discussion of the Czech demonstrative system and an extensive literature overview, I refer the reader to Berger (1993). The present paper will concentrate on the determiner *ten,* as it is the only one that allows for pragmatic uses.

2.2. Canonical vs. pragmatic anaphoric uses of *ten*

In its discourse anaphoric use, the demonstrative determiner *ten* exhibits a systematic ambiguity. Upon the canonical reading, it presupposes the existence of a unique referent in the extension of its NP complement. The uniqueness often results from the process of an "easy" accommodation, relying on the common knowledge of the interlocutors. This accommodation may give rise to the intuition that the unique referent is being selected from a non-singleton set of potential referents (the extension of the NP prior to the accommodation). Upon the pragmatic reading, there is no uniqueness presupposition. Instead, the NP complement remains semantically (type-wise) intact and the demonstrative contributes a reminder that the NP complement or even the utterance in which it occurs is part of previous *common discourse,* which I define (in allegiance to Stalnaker's 1970 concept of common ground) as the set of utterances that the interlocutors know have been made.[4]

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[2]A "postfix" is a suffix that always attaches last, even after inflectional endings. In this sense, it is a borderline case between suffixes and clitics.

[3]The demonstrative determiner *ten* can be doubled when combined with *-hle,* giving rise to expressions like *tenhleten, tohohletoho,* etc. This kind of doubling was studied for Slovenian by Marušič and Žaucer (2012).

[4]To the best of my knowledge, Adamec (1983) was the first one to discuss pragmatic anaphoric uses of demonstratives in Czech (further noting that they do not exist in Russian). Adamec recognizes the reminding function of this use of demonstratives and notices that what is being reminded is typically not just the complement NP itself but rather a

In the examples below, the (a)-readings are canonical and the (b)-readings are pragmatic. The canonical readings should be understood by readers straightforwardly, as they are (presumably) present in every language. The only example where the canonical reading is very difficult to find a context for is (4). It would be felicitous in a situation where temperature measurement is normally associated with an additional parameter that can take different values. Suppose, for instance, the counterfactual scenario in which temperatures come in different colors: 35 degrees (just as any other temperature) can be blue, red, etc. In that case, the reading (4-a) could be quite natural, saying, e.g, that it is supposed to be blue (rather than red) 35 degrees tomorrow.

But let us turn to the pragmatic readings, which I have had troubles explaining to people who do not speak Czech. For that reason, I would like to spell out a concrete context in which the pragmatic reading of each example is felicitous. For ease of presentation, suppose that the utterances are made by Ann in a conversation with Bob. Consider (3) first: Ann and Bob are discussing a serious problem they have with their landlord. Bob suggests that they could seek advise with their common friend Mirek. Ann is not convinced at first but then she realizes that they've heard that Mirek is a lawyer, uttering (3) as an expression of this realization. The speaker-oriented particle *vlastně* contributes to this "sudden realization" reading. Ad (4): Ann and Bob put together plans for tomorrow. Bob suggests that they could go play basketball. Ann counters that it might be too hot for basketball by uttering (4-a), reminding Bob of the weather forecast they heard recently. Ad (5): Ann and Bob are partners and are at a party. It is getting late and Bob suggests to go home. But Ann still had not managed to speak to their common friend Jana (who is also at the party) and utters (5), in order to remind Bob that Ann planned to speak to her. Ad (6): Suppose that Bob suggests that the linguistics department takes over some faculty-level administrative burden, after which Ann counters with (6), reminding Bob that the department still does not have a secretary (as Ann believes Bob had surely heard).[5]

(3)   Mirek je vlastně **ten   právník**.   DEM + PREDICATIVE NP
        Mirek is PART   DEM lawyer
        a.   'Mirek is the lawyer [that we met at the party yesterday].'
        b.   'Mirek is a lawyer [as I've just realized we've heard].'

(4)   Zítra   má být   **těch 35 stupňů**.   DEM + DEGREE-DENOTING NP
        tomorrow has be.INF DEM 35 degrees
        a.   #'Tomorrow, it's supposed to be those 35 degrees [and not some other 35 degrees].'
        b.   'Tomorrow, it's supposed to be 35 degrees [remember, we spoke about it supposing to be 35 degrees tomorrow].'

whole utterance that was made about it. This brings him to the conclusion that "reminding" demonstratives are a sort of propositional modifiers, akin to discourse particles.

[5]As noticed by Amy Rose Deal, the pragmatic reading of example (6) could be analyzed as a case of modal subordination. I admit that this is the case and include the example only for the sake of completeness.

(5) Potřebovala bych   si   promluvit s **tou Janou**.   DEM + REFERENTIAL NP
     need   SUBJ.1SG REFL speak.INF with DEM Jana

    a. 'I need to speak with that Jana [that we met yesterday].'
    b. 'I need to speak with Jana [remember, we spoke about speaking to her].'

(6) Katedra   lingvistiky ještě hledá **tu sekretářku**.   DEM + NON-SPECIFIC NP
     department linguistics still looks.for DEM secretary

    a. 'The linguistics department is still looking for the secretary [that disappeared yesterday].'
    b. 'The linguistics department is still looking for a secretary [remember, we spoke about them needing one].'

There is a way of distinguishing the canonical reading from the pragmatic one by adding further discourse. In particular, the two readings are each associated with a distinct reaction to a presupposition failure. If the uniqueness presupposition of the canonical reading is not satisfied, the hearer reacts by wondering about the identity of the individual that the speaker intended to refer to. A reaction to the pragmatic reading, on the other hand, involves expressing the inability to recollect a relevant utterance about the NP complement. Below, I provide particular examples that complement (5) – (7-a) as a possible reaction to reading (5-a) and (7-b) as a reaction to (5-b).

(7) **Expressing presupposition failures on the two readings**

    a. Počkej, s   kterou Janou?
        wait   with which Jana
        'Wait a minute, with which Jana?'

    b. Počkej, nevzpomínám   si,   že bys   mi říkala, že si   potřebuješ
        wait   NEG.remember.1SG REFL that SUBJ.2SG me said   that REFL need.2SG
        promluvit s   Janou.
        speak   with Jana
        'Wait a minute, I can't remember you telling me that you wanted to speak with Jana.'

Before we move on, I should point out that the utterance that is being reminded of need not necessarily be (a part of) the utterance in which the demonstrative occurs. Consider example (8), which can be uttered in the same situation as (5) (described in the paragraph above (6)), contributing the same reminder. This indicates that it is inadequate to think of the pragmatic demonstrative as a propositional modifier (an idea put forth by Adamec, 1983), one that would take the whole proposition as its argument and contribute the comment that this proposition has been uttered: the utterance (8) is being made for the first time.

(8) Tu   Janu nechám na jindy.
     DEM Jana let.1SG for other.time
     'I will postpone [speaking with] Jana for some other time. [remember, we spoke about
     speaking to her].'

To sum up: The Czech demonstrative *ten,* on top of serving the standard anaphoric function, can be used as a reminder of an utterance in the common discourse (and by extension the semantics it conveys) which is somehow "about" the NP complement of the demonstrative. The NP complement can be of any type (e.g., property-denoting, predicative, referential, non-individual-denoting) and its type remains unaffected by the demonstrative. The utterance that is being referred back to by help of the demonstrative must be, in one way or another, relevant to the presently made utterance. Although it is frequently the case that the reminded-of utterance is semantically identical to the one that is just being made, this is by no means a necessity.

3. Analysis

The analysis I propose intends to find an answer to the following questions raised by the dataset in section 2: 1. How can it be that a single demonstrative determiner sometimes does and other times does not have a semantic contribution? 2. How is it possible that a demonstrative refers back to a whole utterance rather than just to the referent/denotation of the demonstrative description?[6]

In a nutshell, the proposal goes as follows: Demonstratives are lexical items that can spell-out two semantic components (following Elbourne, 2008; Schwarz, 2009; Simonenko, 2013): the uniqueness presupposition and a relational component – establishing a relation between the denotation of the demonstrative description and an entity being pointed at (in a literal or metaphorical sense). These components are in principle independent of one another, making it possible for the demonstrative to spell-out either both at once (canonical use) or the relational component only (pragmatic use). Finally, I will argue that the key to the understanding of the observed anaphoric reference to utterances, despite the NP attachment, lies in the notion of a deferred ostension (Quine, 1969; Nunberg, 1979; Elbourne, 2008).

3.1. Syntax and spell-out

My syntactic account relies on the theory of nanosyntax (Starke, 2009; Caha, 2009), which offers an elegant way of dealing with lexical polysemy and morphological syncretism and hence is suitable for the situation we face: an ambiguity of a demonstrative determiner. In nanosyntax, the syntactic information of a lexical item is represented as a syntactic constituent or a sequence of heads (rather than a bundle of features as, for instance, in distributed morphology). The post-

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[6]The term "demonstrative description" (built after "definite description" and adopted from Wolter 2006) refers to an NP with a demonstrative determiner, e.g. *that man.*

syntactic lexical insertion respects the superset principle, according to which a lexical item matches a piece of syntax (and hence can be inserted) if the syntactic representation of the item is a superset of that piece of syntax. The insertion is further constrained by the so called elsewhere principle (Kiparsky, 1973), which prefers inserting the lexical item which provides the best fit (in this case: the smallest superset) of the given piece of syntax.

Let us now get back to demonstratives. I propose that the lexical entry of a demonstrative or more precisely the phonology-syntax association in that entry is as in (9): the exponent /ðæt/ corresponds ($\Leftrightarrow$) to the sequence of two heads – Dem and D.[7] For comparison, I provide the lexical entry of a definite article, whose exponent /ðə/ corresponds to D only.

(9) **Lexical representation of *that***
/ðæt/ $\Leftrightarrow$
Dem   D   …

(10) **Lexical representation of *the***
/ðə/ $\Leftrightarrow$ D   …
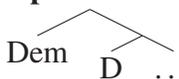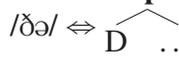
Suppose now that the syntax can generate all the structures in Table 3. What are the possible exponents of these structures given the lexical entries above and the nanosyntactic principles? The syntactic representation of the demonstrative matches (is a superset of) all the structures and therefore the demonstrative could in principle spell out all of them. However, it can only spell out Dem+D and Dem; it cannot spell out D alone because it finds a better match in the syntactic representation of the definite article. In other words, the demonstrative is ruled out from spelling out D on the grounds of the elsewhere principle.[8] The definite article, in turn, is only a superset of D alone and cannot spell out any structure with Dem.[9]

I have demonstrated how a single lexical entry for a demonstrative can spell out two different syntactic structures, namely Dem+D and Dem alone. What is important is that there are potentially distinct lexical entries for phonological and semantic purposes: even if a single exponent spells out a complex structure, such as Dem+D, it can hold that each individual component of that structure gets interpreted individually, i.e., Dem and D each receives its own interpretation. Thus, spelling out two different syntactic structures – Dem+D or Dem – results in two different, albeit related meanings – the canonical one and the pragmatic one, respectively (as indicated by the last column of Table 3). We now have the first part of an answer to our first question: How can it be that a

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[7]Much of the syntactic literature assumes the opposite order/hierarchy, namely one where D scopes over Dem. See footnote 14 and the associated main-text discussion for a semantic reason why the Dem over D order is preferred in the present approach.

[8]There is a prediction for articleless languages, which should be able spell out D by a demonstrative because there is no article to block it. This prediction is relativized, however, by one's assumption about the syntax of articleless languages: it holds only if articleless languages possess/project the category D in the first place (cf. Bošković, 2009).

[9]Some readers may wonder what blocks spelling out D by *the* and subsequently spelling out Dem by *that,* giving something like *that the NP* as a result. There are at least two ways to rule this out: by the minimize exponence principle (Siddiqi, 2006), which forces fewer spellouts whenever possible (*that the* is thus blocked because *that* achieves the same in a single step), or by the assumption that spellout is cyclic, bottom-up, and that subsequent spellout steps "override" previous ones (under structure preservation); see Starke's (2009) "biggest wins" theorem.
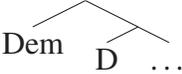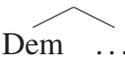
Label	Structure	Exponent		Type of dem
Dem+D	Dem D ...	*that*	(*the* ruled out by superset)	canonical
Dem	Dem ...	*that*	(*the* ruled out by superset)	pragmatic
D	D ...	*the*	(*that* ruled out by elsewhere)	

Table 3: Structures and their exponents

single demonstrative sometimes does and other times does not have a semantic contribution? The (part of the) answer is that not all demonstratives spell out the D component.

3.2. Semantics

On the present approach, asking what the denotation of a demonstrative is amounts to asking what the denotation of its possible components is, i.e., D and Dem. But before we turn to discussing the interpretation of these individual heads, I will provide a background on Schwarz's (2009) analysis of strong definite articles and Elbourne's (2008) analysis of demonstratives, on which the present approach builds.

3.2.1. Background: Schwarz (2009) and Elbourne (2008)

Schwarz and Elbourne both have the idea that demonstratives (or strong definite articles) are semantically more specified versions of (weak) definite articles: they contribute what articles do, but they do more than that.[10] The definite-article contribution is essentially the iota type-shift (property → entity; Partee 1987) and the uniqueness/maximality presupposition it comes with. A particular situation-semantic implementation of this is in (11) (relying on Schwarz's assumptions).

(11) $[\![\text{D/the}]\!]^g = \lambda s_s.\lambda P_{\langle s,et \rangle} : |P(s)| = 1.\iota x[P(s)(x)]$

The additional contribution, specific to demonstratives, is the relational component. This is a requirement that the denotation of a demonstrative description be related (by a two-place relation R) to something in extra-linguistic reality or in previous discourse. According to Schwarz, R is

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[10]Schwarz (2013) hypothesizes that his 2009-analysis of strong definite articles could be applied to demonstratives in articleless languages.

always the identity relation ($=$) and the relevant entity (y) is a referent introduced in previous discourse. The resulting semantics is in (12).

(12) $[[\text{the}_{\text{strong}}/\text{that}]]^g = \lambda s_s.\lambda P_{\langle s,et \rangle}.\lambda y_e : |P(s)| = 1.\iota x[P(s)(x) \wedge x = y]$

It provides the basis for an adequate account of canonical anaphoric uses of definite or demonstrative descriptions: on the one hand, they are run-of-the-mill descriptions, on the other, they establish an identity relation to a previously mentioned referent. Consider example (1-b), repeated in (13-a). The meaning of the anaphoric demonstrative/definite description is in (13-b).

(13)   a.   We met Senator Johnson. This/The politician has been in office since 2011.
        b. $[[[[[\text{this}/\text{the } s_2] \text{ politician}] y_1]]]^g = \iota x[\text{politician}'(g(2))(x) \wedge x = g(1) = \text{Johnson}']$

Elbourne's proposal, which conceptually builds on Nunberg (1993), is more complex but also more general, as it does not specify the value of the relation R. The lexical entry of a demonstrative in this system (abstracting away from the proximity/distality parameter) is provided in (14). Apart from a number of technical details, the entry differs from Schwarz's in that it involves an additional argument – the relation R between an entity (x) and an individual concept ($\lambda s'.z$). This relation corresponds to the identity relation in Schwarz's system (and indeed, the identity relation is the default value of the relational argument). The entity is the deictic component of the demonstrative (what is being pointed at) and corresponds to Schwarz's discourse referent (y). The individual concept corresponds to the denotation of the whole demonstrative description.

(14) $[[\text{DEM}]] = \lambda x_e.\lambda R_{\langle e,\langle se,st \rangle \rangle}.\lambda P_{\langle se,st \rangle}.\lambda s_s.\iota z[R(x)(\lambda s'.z)(s) \wedge P(\lambda s'.z)(s)]$

Consider example (15-a), a standard case of deictic use of demonstratives. The interpretation of *that man* is given in (15-b). In this case, the value of the entity argument (i_1) provided by the assignment function g is the individual pointed at, i.e. John. The value of the relational argument (R_2) is the identity relation. This means that the individual denoted by the demonstrative description *that man* is identical to John.

(15)   a.   Look at that man [GESTURE AT JOHN].
        b. $[[[[[\text{that } i_1] R_2] \text{ man}]]]^g = \lambda s.\iota x[\text{John}' = x \wedge \text{man}'(x)(s)]$

Let us now look at a case that substantiates the variable nature of the relational component, i.e., a case where the relation has a different value than identity. One of the core arguments comes from a phenomenon called *deferred ostension* (early observations date back to Quine 1969 and Nunberg

1979), which is characterized by a situation "in which the speaker demonstrates one thing in order to refer to another." (Elbourne, 2008: 439) An example is given in (16-a), where the speaker intends to refer to donkeys by pointing at empty fields. Obviously, the relation between what is being referred to and what is being pointed at is not the identity relation. Rather, it is one that corresponds to the predicate *is kept in*. The denotation of *this/that donkey* (again, ignoring the proximity/distality parameter) is provided in (16-b).

(16)   a.   This donkey [GESTURE AT FIELD A] is healthier than that donkey [GESTURE AT FIELD B].   (Elbourne, 2008: 439)

              b. $[\![\, [[[\text{this/that } i_1] \, R_2] \, \text{donkey}] \,]\!]^g = \lambda s.\iota x[\text{is.kept.in}'(\text{field.A}')(x)(s) \wedge \text{donkey}'(x)(s)]$

I will show how the concept and mechanism of deferred ostension can be utilized in answering our second question concerning pragmatic demonstratives: How can it be that a demonstrative description anaphorically points to something else (an utterance) than what it denotes (an NP denotation)?

Finally, I would like to sketch how Elbourne proposes to account for anaphoric uses of demonstrative descriptions, as it will be relevant for my own proposal.[11] Unlike Schwarz, who assumes that the element that enters the (identity) relation with the denotation of the demonstrative description is a *discourse referent* (a metalinguistic entity), Elbourne proposes that it is a word/phrase *occurrence* (an object language entity). For reasons of terminological consistency, I replace the term occurrence with the term utterance. An utterance is, according to Elbourne, always of type e. For this reason, it can act as the first argument of the relevant relation. And what is the value of this relation in demonstrative anaphora? It is a more specific version of the classical interpretation function $[\![.]\!]$, namely a function that interprets nouns and NPs: $[\![.]\!]_{\text{NP}}$. This function is of type $\langle e, \langle se, st \rangle \rangle$: it takes an object-language NP (type e) and returns a property (a function from individual concepts $\langle s, e \rangle$ to propositions $\langle s, t \rangle$). In more accessible terms, the relation is *has the property denoted by*. Technically, anaphora in Elbourne's account is a case of deferred ostension, simply because the relation involved is not identity. Consider, once again, our example with an anaphoric demonstrative description – *this politician*. If the assignment function assigns the utterance *Senator Johnson* to i_1 and $[\![.]\!]_{\text{NP}}$ to R_2, we arrive at the interpretation in (17-b).

(17)   a.   We met Senator Johnson. This politician has been in office since 2011.

              b. $[\![\text{this } i_1 \, R_2 \, \text{politician}]\!]^g$
                     $= \lambda s.\iota x[\text{has.the.property.denoted.by}'(\textit{Senator Johnson})(x)(s) \wedge \text{politician}'(x)(s)$

In sum, just as deictic demonstratives establish a relation between something in the extra-linguistic reality and the denotation of the demonstrative description (typically but not always identity),

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[11]Elbourne only explicitly treats donkey anaphora (section 3.8 of his paper), but as far as I can tell, the proposal carries over to run-of-the-mill discourse anaphoric uses.

anaphoric demonstratives establish a relation between something in previous discourse and the denotation of the demonstrative description.

3.2.2. Proposal: Semantics of D and Dem

In section 3.1, I proposed that demonstratives are lexically composed of two heads – Dem and D – and that, due to nanosyntactic principles, they can stand either for Dem+D or for Dem alone. Understanding the semantics of demonstratives in this system therefore amounts to understanding what the individual semantic contributions of Dem and D are and how they interact. The core idea is that the two components of demonstratives (or of strong definite articles) postulated by Elbourne (2008) (and Schwarz 2009), namely uniqueness and relationality, are distributed over the two heads that the demonstrative can spell-out: D and Dem, respectively.[12] It follows that if a demonstrative spells out Dem alone, the uniqueness component will be missing. This is the basic (and general) tool that the present analysis offers for the understanding of pragmatic readings of demonstratives. Let us now move on to the particular semantic proposal.

Concerning D, I have nothing new to contribute. I simply assume that D has the semantics of a Fregean definite article: it contributes the uniqueness presupposition and shifts properties to individuals. The semantic lexical entry is repeated below.

(18) $[\![D]\!] = \lambda s_s.\lambda P_{\langle s,et\rangle} : |P(s)| = 1.\iota x[P(s)(x)]$

The crucial contribution of Dem is the relational component, establishing a relation of the kind described above. What Dem must lack, on the other hand, is the uniqueness presupposition and the type-shifting capacity. One reason for this is theory-internal: uniqueness plus type-shifting is a function attributed to D and it would make little sense to reiterate it in Dem. Another reason is empirical: pragmatic uses of demonstratives need not impose any uniqueness requirement (as established in section 2) and appear to leave the type of their NP complement intact (sections 1 and 2). Moreover, various kinds of NPs can be complements to pragmatic demonstratives. All these considerations necessitate type-flexibility upon Dem's NP-argument and consequently upon the second argument of the relational variable. We arrive at the picture in (19): Dem is a three-place function, taking an index i_1 (type e), a relation R_2 (type $\langle e, \langle \alpha, st\rangle\rangle$, for any type α), and an NP (type α) as its arguments, and returns the meaning of its NP argument (type α) as its value. Assuming that the relational contribution is presuppositional in nature, we can say that Dem functions as a partial identity function (type $\langle \alpha, \alpha\rangle$) upon its NP argument.

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[12]See Simonenko (2013) for a similar, albeit differently motivated proposal.

(19)

```
              DemP
            /      \
          /         \
        /          NP
      /    \
    /   i₁  R₂
  Dem
```
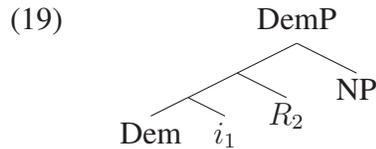
The corresponding lexical entry of Dem is in (20). It presupposes that the value of i_1 is related by the value of R_2 to the denotation of the NP argument (in the utterance situation s_u) and returns the denotation of the NP argument as its final value.[13]

(20) $[\![\text{Dem}]\!]^{g,s_u} = \lambda x_e.\lambda R_{\langle e,\langle \alpha,st\rangle\rangle}.\lambda X_\alpha : R(x)(X)(s_u).X$

Before we turn to an application of this proposal to the Czech data from section 2, let us make explicit how the system works in the two core cases: Dem+D and Dem only. In the former case, Dem selects a definite description (type e) and returns its denotation if it is related by the contextually determined relation to the contextually determined entity.[14] In the latter case, Dem selects an NP (whatever its denotation is) and returns its denotation if it is related by the contextually determined relation to the contextually determined entity. There are no restrictions on the denotation of this "bare" NP or, more precisely, the restrictions are independent of the present proposal. The NP could be property-denoting (type $\langle s,et\rangle$), individual- or kind-denoting (type e or $\langle s,e\rangle$), and in principle also quantificational (type $\langle\langle s,et\rangle,t\rangle$), a case I leave aside in this paper.

3.2.3. Application to anaphoric demonstrative descriptions in Czech

Let me start with a brief reminder of the empirical situation described in section 2. We saw that DEM+NP combinations in Czech yield a systematic ambiguity between canonical demonstrative description readings and what I called pragmatic readings. On the pragmatic reading, the demonstrative (i) leaves the semantics of the NP complement intact and (ii) contributes a reminder that there is a relevant utterance in previous common discourse that was about the denotation of the NP. This is schematically summarized in (21) for two of the cases discussed in section 2.

(21)   a. $[\![\text{DEM}_{\text{prag}} \text{ NP}_{\langle s,et\rangle}]\!] = [\![\text{NP}_{\langle s,et\rangle}]\!]$ + reminder of a relevant utterance about $[\![\text{NP}_{\langle s,et\rangle}]\!]$
        b. $[\![\text{DEM}_{\text{prag}} \text{ NP}_e]\!]$ $= [\![\text{NP}_e]\!]$ + reminder of a relevant utterance about $[\![\text{NP}_e]\!]$

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[13]I take the relational component to be presuppositional essentially for the purpose of exposition. As far as I am concerned, its exact semantic status is an open issue.

[14]This makes clear why Dem has to scope over D rather than the other way around. If Dem is to establish a relation between the DP (or the whole demonstrative description in previous approaches) and some entity, then D has to apply before Dem. Alternatively, if syntax necessitated a D over Dem hierarchy, then D would have to be a semantic argument of Dem, which would require a serious reformulation of D's contribution to the compositional semantics.

Consider now, first in informal terms, how the two observations are accounted for in the present analysis. The first observation is accounted for by the assumption that pragmatic demonstratives correspond to (spell out) Dem alone (the following correspondences hold: $\text{DEM}_{\text{prag}} \Leftrightarrow$ Dem and $\text{DEM}_{\text{can}} \Leftrightarrow$ Dem+D). Since Dem acts as a (partial) identity function, the semantics of the NP complement remains unaffected by Dem. The second observation is accounted for by the relational presupposition introduced by Dem, incorporating Elbourne's (2008) insight about deferred ostension. I assume that the case at hand is indeed an instance of deferred ostension: the denotation of the demonstrative description equals the denotation of the NP, but what is being pointed at (metaphorically) is some relevant utterance in previous common discourse.[15] The relation implicated is an aboutness relation of sorts: the utterance is about the NP denotation.[16] One comment is in order before we move on to the formalization. Standard deferred ostension represents a demonstrative/indexical strategy of the speaker to help the hearer figure out the referent even in its absence in the utterance situation. The present application of deferred ostension is somewhat different because it does not serve the purpose of determining a referent or, more generally, denotation of a demonstrative description: the referent/denotation is clear enough to the hearer even without the demonstrative. What *does* it do then? By establishing a relation to previous common discourse, the speaker helps the hearer find a particular context in which the presently made utterance is relevant.

I will now present an application of the formal analysis to two particular examples (of the kind in (21)). Let us start with a case of DEM + proper name, representing the application of a demonstrative to a referential expression (type e). As an example, take the demonstrative description *tou Janou* 'that Jana' in (22), repeated from (5).

(22)   Potřeboval bych   si   promluvit s   **tou   Janou**.   DEM + REFERENTIAL NP
         need   subj.1sg refl speak.inf with DEM Jana
         a.   'I need to speak with that Jana [that we met yesterday].'
         b.   'I need to speak with Jana [remember, we spoke about speaking to her].'

Under its pragmatic reading (22-b), the meaning of the demonstrative *tou* equals the meaning of Dem alone. The meaning of *Janou* is simply the individual Jana. The relational presupposition contributed by Dem/*tou* is in (23-a); if it is satisfied, the denotation of the whole demonstrative description is equal to Jana, as captured in (23-b).

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[15]This might in fact be too restrictive: It is possible to find scenarios where the interlocutors do not have the same utterance in mind. It seems enough if they know that there was a relevant utterance (possibly different for each interlocutor). This would call for a modification under which the deictic component (what is being pointed at) is modeled not as a variable that is free but that is existentially bound in a presupposition; see the modified entry in (i).

(i) $[\![\text{Dem}]\!]^{g,s_u} = \lambda R_{\langle e,\langle \alpha,st\rangle\rangle}.\lambda X_\alpha : \exists x_e[R(x)(X)(s_u)].X$

[16]In Reinhart's (1981) seminal work, 'being about something' is a property of propositions. Yet, what a proposition is about is often only determined in a particular discourse, making utterances better candidates for the domain of 'being about something'.

(23)   a. $[\![\, [_{\text{DemP}} \text{Dem } i_1\ R_2\ [_{\text{NP}} \text{Janou}_e]]\ ]\!]^{g,s_u}$ *is defined if*
in the utterance situation s_u, some relevant utterance in previous common discourse $[\, = g(1)]$ is about $[\, = g(2)]$ Jana. *If defined, then*

    b. $[\![\, [_{\text{DemP}} \text{Dem } i_1\ R_2\ [_{\text{NP}} \text{Janou}_e]]\ ]\!]^{g,s_u} = \text{Jana}$

For comparison, consider the canonical reading (22-a). In this case, the demonstrative *tou* stands for (spells out) two heads: Dem and D. The structure to be interpreted is therefore the one in (24). The application of D to *Janou* results in a type clash: *Janou* is of type e, but D requires type $\langle s, et \rangle$ from its NP argument. This coerces a type shift of *Janou* to the property $\lambda s.\lambda x.x$ is Jana in s – a set of situation-individual pairs such that the individual(s) is/are Jana(s) in that situation. The uniqueness requirement introduced by D restricts the possible values for the resource situation (s_3) to those in which there is a single Jana. As indicated in (22-a), the relevant situation can be one in which we spoke to Jana yesterday. This is the mechanism of domain restriction (down to a singleton) and it corresponds to the implicit choice of the right Jana (out of a potentially larger set of Janas).

(24) $[_{\text{DemP}} \text{Dem } i_1\ R_2\ [_{\text{DP}} \text{D } s_3\ [_{\text{NP}} \text{Janou}_e]]]$

Taking the coercion into account, the meaning of the DP is in (25) and the meaning of the whole DemP, i.e., the expression *tou Janou*, on its canonical reading, is in (26). I leave aside what the particular value of the demonstrated entity and the corresponding relation could be.

(25)   a. $[\![\, [_{\text{DP}} \text{D } s_3\ [_{\text{NP}} \text{Janou}_{\langle s,et \rangle}]]\ ]\!]^{g,s_u}$ *is defined if*
there is a single Jana in the resource situation $[\, = g(3)]$. *If defined, then*

    b. $[\![\, [_{\text{DP}} \text{D } s_3\ [_{\text{NP}} \text{Janou}_{\langle s,et \rangle}]]\ ]\!]^{g,s_u} = \iota x[\text{Jana}(g(3))(x)]$

(26)   a. $[\![\text{Dem } i_1\ R_2]\!]^{g,s_u}(\iota x[\text{Jana}(g(3))(x)])$ *is defined if*
the single Jana in $g(3)$ is related by a contextually determined relation $[\, = g(2)]$ to some contextually determined entity $[\, = g(1)]$. *If defined, then*

    b. $[\![\text{Dem } i_1\ R_2]\!]^{g,s_u}(\iota x[\text{Jana}(g(3))(x)]) = \iota x[\text{Jana}(g(3))(x)]$

Let us now turn to the case DEM + predicative NP, representing the application of a demonstrative to a property-denoting expression (type $\langle s, et \rangle$). Take example (27), repeated from (3).

(27)   Mirek je vlastně **ten právník**.   DEM + PREDICATIVE NP
Mirek is PART   DEM lawyer

    a.   'Mirek is the lawyer [that we met at the party yesterday].'
    b.   'Mirek is a lawyer [as I've just realized we've heard].'

The meaning of the pragmatic use of the demonstrative description *ten právník* is provided in (28). Notice that the system correctly derives the non-referential nature of the demonstrative description, which in turn affords a standard predicative interpretation of (27).

(28) a. $[\![\ [_{\text{DemP}}\ \text{Dem}\ i_1\ R_2\ [_{\text{NP}}\ \text{právník}_{\langle s,et\rangle}]\ ]\!]^{g,s_u}$ *is defined if*
          in the utterance situation s_u, some relevant utterance in previous common discourse $[\ = g(1)]$ is about $[\ = g(2)]$ the property of being a lawyer. *If defined, then*
      b. $[\![\ [_{\text{DemP}}\ \text{Dem}\ i_1\ R_2\ [_{\text{NP}}\ \text{právník}_{\langle s,et\rangle}]\ ]\!]^{g,s_u} = \lambda s.\lambda x[\text{lawyer}'(s)(x)]$

Compare this to the canonical reading of the given demonstrative description. In this case, the demonstrative spells out both Dem and D and therefore conveys uniqueness, as indicated in (29). The meaning of the whole demonstrative description is in (30). It is a referential expression and the resulting interpretation of (27) corresponds to equation rather than true predication.

(29) a. $[\![\ [_{\text{DP}}\ \text{D}\ s_3\ [\text{NP právník}_{\langle s,et\rangle}]\ ]\!]^{g,s_u}$ *is defined if*
          there is a single lawyer in the resource situation $[\ = g(3)]$. *If defined, then*
      b. $[\![\ [_{\text{DP}}\ \text{D}\ s_3\ [\text{NP právník}_{\langle s,et\rangle}]\ ]\!]^{g,s_u} = \iota x[\text{lawyer}'(g(3))(x)]$

(30) a. $[\![\text{Dem}\ i_1\ R_2]\!]^{g,s_u}(\iota x[\text{lawyer}'(g(3))(x)])$ *is defined if*
          the single lawyer in $g(3)$ is related by a contextually determined relation $[\ = g(2)]$ to some contextually determined entity $[\ = g(1)]$. *If defined, then*
      b. $[\![\text{Dem}\ i_1\ R_2]\!]^{g,s_u}(\iota x[\text{lawyer}'(g(3))(x)]) = \iota x[\text{lawyer}'(g(3))(x)]$

In sum, I demonstrated how the two different readings of demonstrative descriptions in Czech can be modeled using the syntactic and semantic decomposition proposed in sections 3.1 and 3.2.2, combined with the assumption that deferred ostension is a concept that can be applied to discourse anaphora and with a different purpose.

4. Extension: Affective demonstratives

The phenomenon of affective (also emotive) demonstratives seems relatively widespread; so far, it has been documented at least for Czech (Mathesius, 1926), English (Lakoff, 1974), German (Potts and Schwarz, 2010), and Japanese (Davis and Potts, 2010). Since the Czech data have never been exposed to the field of formal linguistics, let me include a number of examples, complementing the English ones provided in the introduction. Some prototypical examples are provided in (31). Concerning (31-a), Mathesius (1926) notices that the affective character of demonstratives is intensified by the first-person possessive pronouns.

(31) a. Ten náš tatínek nějak   stárne.   (Mathesius, 1926: 40)
          DEM our dad   somehow gets.old
          'Our dad is getting old [and we feel affectionate about him].'
      b. To   sluníčko dnes hřeje.   (Mathesius, 1926: 41)
          DEM sun.DIM today heats
          'It's hot in the sun today [and we find it pleasant].'

Mathesius further observes that the demonstrative and possessive determiners sometimes alternate with zero, giving rise to a scale of affectiveness – from the least affective (32-a) to the most affective (32-c).

(32) a. Jen kdyby mne hlava nebolela.   (Mathesius, 1926: 41)
          only if   me head NEG.hurt
      b. Jen kdyby mne **ta**   hlava nebolela.
          only if   me   DEM head NEG.hurt
      c. Jen kdyby mne **ta   má** hlava nebolela.
          only if   me   DEM my head NEG.hurt
          'Only if I didn't have a headache!'

I leave a precise semantic analysis of affective demonstratives for another occasion. Nevertheless, I would like to point out that the present proposal might offer a useful syntactico-semantic substrate for analyzing affective demonstratives. If we assume that they spell out Dem alone (rather than Dem+D), we derive the generalization that they do not shift the type of their NP complement. Consider the Czech examples above. All of them involve situationally unique definite NPs ('dad', 'sun', 'head'), which are normally expressed by bare NPs in Czech. The demonstrative therefore does not play the role of D. The Dem-based analysis also offers a new perspective of Lakoff's (1974) conjecture that affective demonstratives are used in order to evoke hearer's solidarity with the speaker's own views. It does not seem entirely unlikely that the solidarity could be modeled using the relational component contributed by Dem. It is possible, for instance, that the demonstrative establishes a relation between the NP denotation (referent) and some relevant common ground attitudes, i.e., attitudes held by all the interlocutors.

5. Summary and open issues

I proposed a new syntax-semantics for pragmatic demonstratives. These are demonstratives which lack the properties of definite articles, particularly the uniqueness presupposition and the type-shifting capacity. On the syntactic side, the proposal builds on nanosyntactic principles (Starke, 2009), which provide an elegant way of dealing with the apparent ambiguity of demonstratives. In particular, demonstratives either spell out two heads – Dem and D, a structure underlying canonical demonstratives, or only one head – Dem, underlying pragmatic demonstratives. On the semantic

side, I argued that the contribution of demonstratives as viewed by Elbourne (2008) (and similarly so by Schwarz 2009 for the case of strong definite articles) should be distributed over the two heads: D hosts the definite-article semantics (uniqueness, type-shifting) and Dem hosts a relational component, establishing a relation between the denotation of the demonstrative description and some contextual entity. With these instruments at hand, I provided a detailed analysis of Czech anaphoric pragmatic demonstratives (novel to the formal literature). I argued that they establish a relation between the NP denotation and an utterance in previous common discourse such that the utterance was about that NP denotation – a relation that relies on the concept of deferred ostension (Elbourne, 2008). The proposal introduces a new method for analyzing pragmatic demonstratives in general. In section 4, I suggested how it could be extended to affective (emotive) demonstratives, a kind of pragmatic demonstratives attested cross-linguistically.

Many issues remain open, of course. One that particularly stands out is the issue of the relational component. Elbourne's (2008) (or in fact Nunberg's 1993) idea that demonstratives establish a relation between the denotation of the demonstrative description and something else is powerful and attractive in its flexibility. The present analysis might be taken as evidence that such flexibility is in fact exactly what is needed. On the other hand, by modeling the relation as an unrestricted free variable, the approach clearly allows for many more kinds of relations than the ones attested so far (a relation of the DemP denotation to pretty much anything is a viable option). Further cross-linguistic investigations might reveal that languages do indeed make use of these various options. On the other hand, some quite severe restrictions are certainly needed to constrain the use of demonstratives within a single language. Take some examples: English does not seem to have anaphorically used pragmatic demonstratives. Affective demonstratives cannot be mechanically translated from one language to another. Where do these restrictions come from? Can they be derived from independent facts of individual languages or are we dealing with lexical idiosyncrasy? As far as I can tell, answers to these questions are not even at our research horizon.

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