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# Demonstratives as arguments and modifiers of N*

**Abstract:** The aim of this paper is to provide a minimalist account of adnominal demonstratives along the lines of a recent proposal by Giusti (2015) which distinguishes three types of feature sharing: Agreement, Concord, and Projection. As demonstratives bind and identify an open position in the argument structure of N, they are claimed to be arguments and, as such, to undergo Agreement. But unlike possessor arguments, which are assigned genitive and are sent to the interfaces independently of the possessee phase, demonstratives are probed to the Edge of the phase and are interpreted as part of it. In order to do so, they must also concord with N, namely they must check and delete uninterpretable N-features. This dual nature of demonstratives as agreeing arguments and concording modifiers can explain the different positions demonstratives display across languages, as well as their apparently ambiguous behavior as determiners, as adjectives and as exophoric elements, as claimed by Diessel (2006).

**Keywords:** ...

# 1 Introduction

There is a long standing debate regarding the category of demonstratives. A well established tradition claims that they belong to the functional category "determiner", which includes articles, quantifiers, personal pronouns and, in some languages, possessive adjectives and pronouns. This view is based on the fact that demonstratives are often found in complementary distribution with these elements. At the opposite side, another well-established tradition claims that they

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belong to the lexical category "adjective", especially in languages with no articles. This view is based on the fact that demonstratives often display adjectival morphology and the same behavior of adjectives as regards word order and extractability. A third, novel view put forth by Diessel (2006) considers demonstratives as neither functional (or D-like in our terms) nor lexical (or A-like in our terms) but as "categories of the third kind", more primitive than any other linguistic category, directly pointing in space and serving the communicative function of establishing joint attention. In this contribution, I provide a syntactic account of demonstratives in the framework of phase theory (Chomsky 2008 and much work following him), which can conciliate these three apparently alternative views.

## 1.1 The syntax of demonstratives in previous literature

When it comes to the structural position of demonstratives, the two more traditional approaches (functional-determiner status vs. lexical-adjectival status) divide in a number of different possibilities.

In the demonstrative-as-determiner approach (Abney 1987, Longobardi 1994, a.o.), it is generally assumed that demonstratives are in D, as in (1a), heading the highest functional projection of the nominal expression (henceforth NE, a term that allows us to remain agnostic as to the actual label of the complete nominal projection). But it has also been proposed that demonstratives are in other positions, on evidence from languages where demonstratives can or must cooccur with articles. In particular, it has been claimed that demonstratives are specifiers (Giusti 1997, 2002, Brugè 1996, 2002), and this opens up the possibility for them to be merged in SpecDP, as in (1b), or in lower specifiers, as will be shown later in the paper:
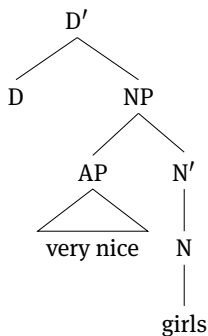
(1)    a.                                         b.
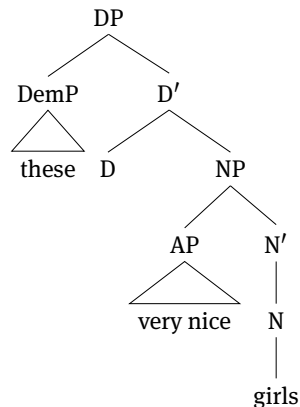
In this perspective, the demonstrative-as-determiner-approach becomes compatible with the demonstrative-as-adjective approach, especially in view of the well known fact that adjectives come in different classes, undergoing a rigid hierarchy. The similarities with adjectives can be attributed to adjectival status, while the differences between demonstratives and other adjectives can be attributed to a difference among adjectival classes.

    The structural position of adnominal adjectives is, in general, also subject to debate. Alternative analyses take adjectives as specifiers of NP, as in (1) above, or as heads selecting an NP, as in (2a) (cf. Bouchard 1998, 2002), or as maximal projections adjoined to NP, as in (2b) (cf. Bošković 2005), or as predicates of a reduced relative clause, as in (3), (cf. Alexiadou and Wilder 1998 and den Dikken 1998, who follow Kayne 1994):

(2)    a.
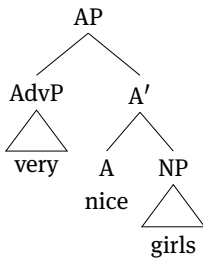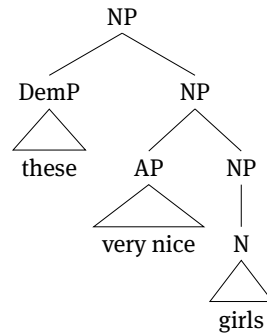


As reported by Corver and van Koppen (this volume), according to den Dikken (1998), (3a) is the structure of indirect modification, where the AP is the predicate and the NP moves to SpecFP; while (3b) derives (direct modification) adpositional adjectives from the indirect modification structure, leaving NP in SpecXP and raising the AP predicate to SpecFP:[1]

(3)    a.    [$_{DP}$ the [$_{FP}$ [$_{NP}$ mother]$_j$ F [$_{XP}$ [$_{NP}$ ~~mother~~] … [$_{AP}$ proud of her son]
            b.    [$_{DP}$ the [$_{FP}$ [$_{AP}$ yellow] F [$_{XP}$ [$_{NP}$ book] … [$_{AP}$ ~~yellow~~]]]]

In this line of analysis, Corver (2003, 2008) claims that in Dutch, the possessive pronoun is embedded in a possessive PP predicated of the NP boek which is in SpecXP, the specifier of the predicate phrase, whose head X is filled by the morpheme *'n*, as in (4a). The derivation proceeds as in (4b): P incorporates to X, obtain-

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**1** I substitute traces with strikeout constituents here to be consistent with what follows.

ing X+P, which further incorporates to F. Then the whole PP predicate moves to SpecFP. Finally *'n* encliticizes onto *mij* to obtain *mijn*:

(4)    a.    $[_{DP}$ D $[_{FP}$ Spec F $[_{XP}$ $[_{NP}$ boek] $[_{X'}$ 'n $[_{PP}$ $P_{DAT}$ mij $]]]]]$     $\Rightarrow$
       b.    $[_{DP}$ D $[_{FP}$ $[_{PP}$ $t_k$ mij$]_i$ F+[X (='n)+$P_k]_j$ $[_{XP}$ $[_{NP}$ boek] $[_{X'}$ $t_j$ $t_i$ $]]]]]$

Corver and van Koppen (this volume) apply (4) to demonstratives. Since the demonstrative cannot be a predicate, they propose that it is the "subject" of the DP-internal predication, following Campbell's (1996) predication approach to NEs, according to which, when the demonstrative is merged, NP is the predicate of the DP-internal predication. The result is a structure like (5a) which is the base of (5b) with DEM moving from SpecXP to SpecDP:

(5)    a.    $[_{DP}$ D $[_{XP}$ DEM $[_{X'}$ X $[_{NP}$ PREDICATE $]]]]$
       b.    $[_{DP}$ DEM D $[_{XP}$ DEM $[_{X'}$ X $[_{NP}$ PREDICATE $]]]]$

With this overabundance of alternatives at the background, cross-linguistic variation in the syntax of demonstratives raises the question as to whether their categorial nature and/or different merging positions is subject to parametric variation.

## 1.2 Aim and structure of the paper

The aim of this paper is to provide an analysis of demonstratives in the minimalist framework that captures all the properties accounted for by the three approaches above and some more, which will be presented in the course of the discussion.

The paper is structured as follows. Section 2 presents four different sets of phenomena that characterize demonstratives in European languages; namely, partial adjectival behavior, general tendency of being at the Edge of the NE, possible different positions language-internally, and different cooccurrence patterns cross-linguistically. Section 3 introduces the theoretical background, which is made of three basic ingredients: (i) Diessel's (2006) analysis of demonstratives as originally exophoric elements, which are the base to form a number of indexicals, such as pronouns and articles, notably associated with 3rd Person features; (ii) the concepts of Phase as a referential object, developed by Arsenijević (2007, 2015), and of Agreement as the trigger of compositionality, developed by Hinzen (2012); and (iii) a recent proposal of mine (Giusti 2015), which distinguishes three different ways of sharing features: Agreement, Concord and Projection. I claim that a probe triggering Agreement targets the Person feature of a complete nominal phase. If this is correct, it is expected that all nominal phases have Person, and that Per-

son is merged at the Edge of the phase. Section 4 substantiates my proposal that a demonstrative is at the same time an argument and a modifier of N. As argument, it is first-merged above all (possessive) arguments and below adjectival modifiers. But because it carries the Person feature that is necessary for a nominal phase to be sent to interpretation and be able to re-enter the cycle, it is remerged at the Edge of the NE in order for Person to be accessible to the outside of the phase. I will call the trigger of this type of remerger "internal Agreement". In the languages observed above, the demonstrative also displays Concord with N for all its functional features including Case, which is assigned to the whole nominal phase by means of external Agreement. Section 5 derives all the apparently contradictory properties of demonstratives highlighted in section 2 in a unified way and draws the conclusions.

## 2 Cross-linguistic variation

Demonstratives display a wide range of variation at least across four different dimensions. With adjectives, they share inflectional morphology and the possibility or impossibility to extract (§2.1); but unlike adjectives, they are usually at the Edge of the NE (§2.2); in some languages, they can be in more than one position inside the NE (§2.3); in some languages they can cooccur with articles, possessives, and quantifiers; however, in no language do they occur with personal pronouns (§2.4). Although these properties have been noted in the literature, to my knowledge, no previous work has tried to account for them in a unified way.

### 2.1 Adjectival behavior

Demonstratives appear to share many properties with adjectives: first of all, inflection. If adjectives inflect for nominal features in a language, also demonstratives do and vice versa, if adjectives do not inflect, also demonstratives do not. But if there are differences in the richness of inflection, demonstratives are generally richer than adjectives. For example, in English, demonstratives inflect for Number, while adjectives are totally uninflected.

In Romanian, demonstratives fully inflect for Case, like definite enclitic articles, indefinite free articles, and quantifiers. This does not hold of adjectives and nouns. In (6)-(8), we see oblique case on singular masculine and feminine nouns. Masculine singular adjectives and nouns in (6a), (7a), and (8a) do not have a dedicated morphology in oblique case. Feminine singular adjectives and nouns in

(6b), (7b), and (8b) display a non-nominative singular form in *-e*, appearing on oblique singular as well as on oblique and non-oblique plural, phonologically reduced if compared to the full oblique singular form *-ei*, which appears on demonstratives and articles. In the examples and glosses the full dative inflection is highlighted in bold, while the weak non-nominative inflection is not:

(6)   a.   acest**ui**          frumos    băiat      român
           this.**M.SG.DAT** nice.M.SG boy.M.SG Romanian.M.SG

      b.   acest**ei**          frumoase       fete              române
           this.**F.SG.DAT** nice.F.SG.DAT girl.F.SG.DAT Romanian.F.SG.DAT

(7)   a.   băiatul**ui**        (acest**ui**a)         frumos
           boy.the.m.sg.dat this.M.SG.DAT.*a* nice.M.SG

      b.   fet**ei**            (acest**ei**a)         frumoase
           girl.the.**FEM.SG.DAT** this.F.SG.DAT.*a* nice.F.SG.DAT

(8)   a.   frumosul**ui**       băiat      român
           nice.the.**M.SG.DAT** boy.M.SG Romanian.M.SG

      b.   frumoas**ei**        fete          române
           nice.the.**F.SG.DAT** girl.F.SG.DAT Romanian.F.SG.DAT

In (6) the prenominal demonstrative is the only carrier of Case. In (7) the postnominal demonstrative carries Case even if Case also surfaces on the article encliticized on the preceding noun. In (8) the prenominal adjective hosts the enclitic article, which is the only carrier of Case. Here, a demonstrative cannot appear at all (cf. (17d-e) later on).

In Latin and Italian, adjectives and demonstratives inflect for the same inflectional features (only Gender and Number in Italian, also Case in Latin, as said above). The comparison of Romanian with Italian and Latin provides evidence for a second parallel between adjectives and demonstratives. If in a language, adjectives can be extracted out of the NE, also demonstratives can, and vice versa, if adjectives cannot be extracted, also demonstratives must remain inside the NE. In Latin (9), both adjectives and demonstratives can be discontinuous from their NE, while in Italian (10) or Romanian (11) neither can (cf. Giusti and Iovino, 2016):

(9)   a.   maximam         habet [~~maximam~~       opinionem
           greatest.~~ACC.F.SG~~ has     opinion.~~ACC.F.SG~~ courage.~~GEN.F.SG~~
           virtutis]

           'He had the greatest consideration of courage'        (Caes. Gall. 7,59,5)

      b.   hac             vincit in consilio [~~hac~~ sententia]
           this.~~NOM.F.SG~~ wins   in council       sentence.~~NOM.F.SG~~

'This opinion wins in the council'                         (Caes. civ. 1.67)

(10)  a.  {*massima} aveva [la  {massima} considerazione del
          greatest  [he]  had the       greatest      consideration
          coraggio]
          of-the     courage
          'He had the greatest consideration of courage'
      b.  {*questa} vince [{questa} opinione in consiglio]
          this       wins this      opinion  in council
          'This opinion wins in the council'

(11)  a.  {*maxima}  are        [{maxima} opinie  (a)  curajului]
            greatest-the [he]-has          opinion (of) courage-the.GEN
          'He takes virtue in the greatest consideration'
      b.  {*această / *aceasta} câstiga [{această opinie   / opinia
            this                    wins    this    opinion / opinion-the
          aceasta}]
          this
          'This opinion wins'

The same is the case of Serbo-Croatian (12a) vs. Bulgarian (12b) as argued by
Trenkić (2004) and Bošković (2005):

(12)  a.  Nova / Ta je     prodao [n̶o̶v̶a̶ / t̶a̶  kola] (Serbo-Croatian)
          New / that is [he] sold     new / that car
      b.  {*novata  / *tazi} Prodade Petko [{novata / tazi} kola]   (Bulg.)
            new-the / this sold      Petko                 car

The data presented in this section suggest that demonstratives belong to a special
class of nominal modifiers, not exactly like adjectives, but also not completely
unlike them.


## 2.2 Demonstatives as "edgers"

Demonstratives are often found at the Edge of the NE. According to Cinque's
(2005) attempt to derive Greenberg's Universal 20 from a general theory of NP
movement inside the NE, the demonstrative is always hierarchically higher than
Numerals and Adjectives. In (13), I give the orders reported by Cinque as being
attested in "very many" languages; in (14) those attested in "many" languages;
in (15) those attested in "few" languages; and in (16) those attested in "very few"
languages. According to Cinque, the other logically possible orders are extremely
rare or not attested at all:

(13)  a.  Dem Num A N                           (very many languages)
       b.  N A Num Dem

(14)  a.  Dem Num N A                            (many languages)
       b.  Dem N A Num

(15)  a.  N Dem Num A                             (few languages)
       b.  N A Dem Num
       c.  N Num A Dem

(16)  a.  Dem N Num A                        (very few languages)
       b.  A N Dem Num
       c.  N Dem A Num
       d.  A N Num Dem

In the solidly attested orders (13), the hierarchy of modifiers could be taken to be exactly the same, given that the postnominal order in (13b) is the mirror image of the prenominal one in (13a). In both cases the demonstrative is an edger (leftmost or rightmost). This is also the case in the orders in (14). If we abstract from the position of N, this is so also in the left branching orders in (15a), (16a), (16c) and in the right branching orders in (15c), (16d). There are therefore only two exceptions to the generalization that demonstratives are edgers: namely, (15b) and (16b) which have N A and A N, respectively, preceding Dem Num.

Thus, if linear order reflects hierarchical structure, the quasi totality of orders suggests that demonstratives are edgers.[2]

## 2.3 More than one position intra-linguistically

The orders discussed by Cinque abstract from the other well known fact that demonstratives can appear in more than one position intra-linguistically. For example in Romanian (17) and Spanish (18) they can appear in first position as well as NE-internally:

(17)  a.  acest băiat frumos    Dem N A
          this   boy   nice

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**2** It is not important here how the right-branching structure should be derived: whether by roll-up movement *à la* Cinque (2005, 2010) or by assuming right-branching merger, *à la* Abels and Neeleman (2010). For such a discussion, I refer the interested reader to Giusti (submitted). For our purposes in this paper, it is sufficient to assume that the demonstrative is the hierarchically highest modifier in the NE.

   b.   acest frumos băiat     Dem A N
        this   nice    boy

   c.   băiatul acesta frumos  N+art Dem A
        boy-the this  nice

   d.   frumosul (*acesta) băiat   A+art *Dem N

   e.   frumosul băiat (*acesta)   A+art N *Dem

   f.   băiatul frumos (*acesta)   N+art A *Dem

(18)  a.   este chico hermoso   Dem N A
           this boy   nice

      b.   este hermoso chico   Dem A N
           this nice       boy

      c.   el  hermoso chico este   art A N Dem
           the nice       boy   this

      d.   el  chico hermoso este   art N A Dem
           the boy   nice       this

      e.   el  chico (*este) hermoso   art N *Dem A
           the boy   this     nice

      f.   el hermoso (*este) chico   art A *Dem N

There are two important facts to be noted in (17)-(18). First, when the demonstrative is not the leftmost element, the NE is introduced by an article, which is encliticized to the leftmost element in Romanian, and is a free morpheme at the Left Edge of the NE in Spanish. Second, Romanian and Spanish present different postnominal positions for the demonstrative, with respect to a postnominal adjective. Note that in the examples above no numeral is given. Although the literature is not explicit on this, a numeral would not be easy to insert ~~in the case~~ the demonstrative is postnominal, suggesting that these cases are marked. The question is how to derive these possible orders.

The common ancestor of the two languages, namely Latin, a language which is well known to have no article and quite free order, had a rate of Dem N vs. N Dem order (e.g. *hic homo* "this man" vs. *homo hic* "man this") of around 80% vs. 20%, suggesting that the postnominal position was more marked than the prenominal one (cf. Spevak 2010, Iovino 2012).[3]

Surprisingly, complex NEs including an adnominal adjective, display only *ille* in postnominal position (cf. Iovino 2012, Giusti and Iovino 2016), and only in the

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**3** The percentages are intended as tendencies of ordering. These rates are independently found in Marouzeau (1922), Spevak (2010), and Iovino (2012). These authors have collected what they consider a consistent number of co-occurrences of Dem and N in representative prose texts (cf. fn. 4 for a detailed description of Iovino's corpus).

order represented in (19c). The orders in (19a-b) are not found in Latin. The three different demonstratives are instead quite liberally found in different prenominal positions for a total of 94% of cases, out of which the unmarked position is clearly the Left Edge as shown by (20a-b). But the second position preceded by a fronted adjective, as in (20c), is found almost at the same rate as the postnominal demonstrative in simple NEs (19%):[4]

(19)  a.  A N *hic / *iste / *ille
      b.  N A *hic / *iste / *ille
      c.  N *hic / *iste / ille A    (6%)

(20)  a.  hic / iste / ille A N    (54%)
      b.  hic / iste / ille N A    (21%)
      c.  A hic / iste / ille N    (19%)

The data above suggest a high left-branching position for demonstratives in Latin. If this is correct, in Latin and Romanian the demonstrative does not appear in a low position, as it does in Spanish.

## 2.4  Coocurrence patterns

Cross-linguistic variation regards the co-occurrence of demonstratives with the definite article, as we have already seen in Romanian (17) and Spanish (18) for postnominal demonstratives. Importantly, also the prenominal position of the demonstrative can give rise to obligatory cooccurrence with a definite article, as is the case of Greek (21a). Note that this creates a perfect parallel with personal pronouns (21b), even more so if we consider that the plural demonstrative in (21a) is homophonous to the 3rd Person pronoun, as shown by the gloss:

(21)  a.  afti        i    glossologi
          these/they  the  linguists
          'these linguists'

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**4** Iovino's corpus consists of 1930 authentic samples of Simple and Complex nominal expressions (1228 S(imple)NEs, among which, 556 containing Dem >/< N; 419 containing PossA >/< N; 253 containing omnis "all" >/< personal pronoun N; and 702 Complex NEs, among which, 262 containing Dem >/< N >/< A/Num/Poss; 96 containing PossA >/< N; 100 containing A2 >/< N >/< A1; 244 containing Q >/< N >/< A). This corpus was created manually, reading representative work by authoritative authors (Plautus, Cato; Caesar, Cicero, Sallust; Livy; Seneca, Tacitus, Suetonius, Ammianus Marcellinus, Gellius and Augustinus) and interrogating the Bibliotheca Teubneriana Latina for specific lexical items.

    b.   emis i     glossologi
          we    the linguists
          'we linguists'

Cooccurrence of a demonstrative and a possessor is ungrammatical in French (22a), marginal in German (22b), and freely possible in Italian (22c), where the NE would be ungrammatical without a determiner:

(22)    a.   ces (*mes) mains
       b.   diese (?meine) Hände
       c.   queste (mie) mani 'these my hands'

The data in (22) clearly correlate with the impossibility in French and German and the necessity in Italian for the possessive to be preceded by a definite article (23):

(23)    a.   (*les) mes mains
       b.   (*die) meine Hände
       c.   *(le) mie mani 'the my hands'

But if we look at Spanish, we observe that the facts in (22) cannot be directly reduced to those in (23). In fact, as regards prenominal possessives, Spanish patterns with French, not with Italian (24). However, a demonstrative can cooccur with a postnominal possessive, cf. ungrammatical (25a) with grammatical (25b). Furthermore, a postnominal demonstrative, as in (26), can appear provided it is lower than the demonstrative:

(24)    a.   (*las) sus manos                            (*art) Poss N
       b.   las manos suyas                              art N Poss

(25)    a.   *estas sus / suyas manos                   *Dem Poss N
       b.   estas manos suyas                          Dem N Poss

(26)    a.   las manos estas suyas                   art N Dem Poss
       b.   *las manos suyas estas                *art N Poss Dem

In what follows, I derive these facts from the notion of phase. I elaborate on the fact that possessives have a referential index independent from the index of the NE projected by the possessee, while demonstratives provide (part of) the index of the possessee. As a consequence, possessives must be sent to interpretation before and independently of the nominal phase of the possessee, while demonstratives and personal pronouns carry the Person feature of the nominal phase, which reaches the Edge of the possessee phase before the possessee is sent to the interfaces.

# 3 Background assumptions

Diessel (2006) claims that demonstratives are not functional categories, despite they form a closed class; in fact, unlike functional categories, demonstratives are universally present across languages and appear among the first words in child speech. He derives these properties from the very basic nature of demonstratives; namely, the coordination of the interlocutors' joint focus of attention. His conclusion is that demonstratives are primarily exophoric elements, and as such they are a point of junction between language and more primitive systems of communication. Furthermore, Diessel convincingly argues that the discourse anaphoric function of demonstratives is the initial stage of a grammaticalization cline, during which the demonstrative maintains 3rd Person features, progressively losing its pragmatic force (from exophoric to discourse deictic, to anaphoric, to definite, to uniquely referential).

In this section, I set Diessel's remarks in a minimalist perspective. In 3.1, I review the well known proposal by Higginbotham (1985, 1987), to consider the Davidsonian event argument as part of the theta-grid of V and N and two more recent proposals by Arsenijević (2007, 2015) and Hinzen (2012) that shed new light on Higginbotham's theta-binding in the perspective of a theory of phases. We will see that each phase is a complete referential object and that Agreement is the process which allows compositionality of meaning, in that it targets a complete phase (which is referential) to make it part of the description of a new phase. In 3.2, I briefly introduce a proposal of mine to explain feature sharing as the result of two different processes: Agreement, which crucially targets Person features (namely theta-binders at the Edge of a nominal phase) and Concord, which corresponds to theta-identification.

## 3.1 An ontology of referents and phase theory

### 3.1.1 Theta-binding and theta-identification

Higginbotham (1985, 1987) proposes an event position <E> in the theta-grids of V and N to capture the fact, noted by Davidson (1967), that circumstantial modification has scope over the whole event, including its arguments. For example, in (27a), the adverb *fatally* has scope over the whole event <E> of slipping by Mary, as well as over *Mary* (position <1> associated with *slip*), in the sense that the whole event of her slipping was fatal to her. The same is the case of the adjective *fatal* in (27b). The arrows represent the process of theta-identification of the internal argu-

ment <2> of Adv or A with the external argument <1> of V or N and of the external argument <1> of Adv or A with the <E> argument of V or N:

(27)  a.  Mary fatally slipped [$_{V''}$ [$_{V'}$ [$_{AdvP}$ fatally <1, 2>] [$_{V'}$ slipped <1, E>]]]

  b.  Mary's fatal slip [$_{N''}$ [$_{N'}$ [$_{AP}$ fatal <1, 2>] [$_{N'}$ slip <1, E>]]]

Higginbotham then proposes that while the arguments are saturated by individual referents, the <E> position must be theta-bound by a sentential operator when associated with V, as in (28a), and by a determiner, when associated with N, as in (28b):

(28)  a.  Mary walked. → (∃$e$) walked(Mary, $e$)
  b.  the dog → (the $x$) dog($x$)

Note the asymmetry between the syntactic object denoting an event (presumably a vP in current terms), which is bound externally namely in the clause, and a NE, a syntactic object denoting an individual, whose theta-binder is inside the NE. I will show that this lack of parallelism is resolved in the more recent theory of phases.

### 3.1.2 Phase Theory

Chomsky (2001, 2005, 2008) and much work following him propose that syntax creates linguistic objects called "phases" that are computed separately. When a phase is sent to interpretation at the interfaces, it becomes opaque to further operations, with the exception of its (Left) Edge. Extractability of parts of a phase is conditioned to the availability of intermediate Edge positions. Chomsky identifies two phases in the sentence, vP and CP and suggests that the core nature of a phase is propositional (like CP and, to some extent, vP). He also attributes the status of phase to DP, even if DP does not have propositional value.

Arsenijević (2007, 2015) reverses Chomsky's proposal. Observing that most CPs do not have propositional value, he proposes that DPs represent the core nature of phases and that an optimal design of the syntax-semantics interface should view phases as complete referential expressions. "For this to be achieved, it needs to provide a maximizing description, to specify the relation used to refer (distance, order or aboutness/space-time) and optionally, in the left periphery, to indicate the set of alternatives within which the referent is identified and interpreted. Minimally, this involves one projection introducing an unvalued deictic

feature (VP, NP, FinP/TP) and another one that c-commands it and assigns it a value (vP, DP, CP)." In his words "DP establishes reference in terms of the relation of proximity / distance [...], vP establishes reference through the relation of precedence [...], CP establishes reference in terms of the discourse relation of aboutness." Cf. Arsenijević (2007: 6–8)

The parallel with the theta-grid and theta-binding seen in 3.1 is straightforward: the uninterpretable [DISTANCE] and [ORDER] features of N and V are part of the theta-grid of the lexical category and need to be bound existentially by an adequate syntactic object (operator or constant) merged at the Edge. Here the parallel is perfect, in that the open position of N is bound in DP and the open position of VP is bound in vP.

Arsenijević (2007, 2015) proposes that N is composed of an unvalued DeicP targeted to the Edge in D, which contains a corresponding valued feature, as in (29):

(29)     'this ball'
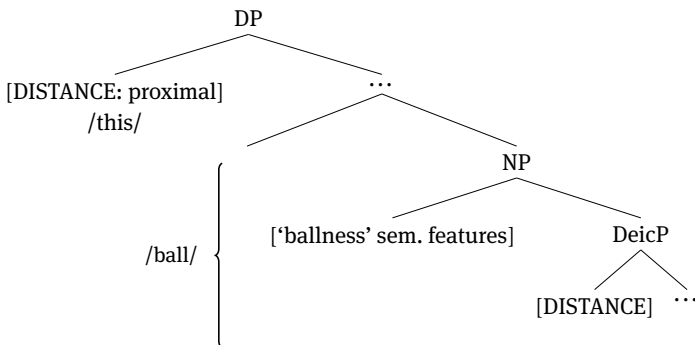


In (29) the unvalued feature [DISTANCE] is the core of the category N. In a parallel fashion an unvalued feature [ORDER] is suggested to be the core of the category V (to be valued by what is generally considered as Aspect). This makes the nature of two lexical categories N and V quite different from what we are used to imagine, and more importantly, very different from other lexical categories that supposedly do not project phases (e.g. adjectives, adverbials, prepositions), because they do not constitute referential objects. It also makes the two lexical categories N and V similar to T, which is no more taken to be functional.

### 3.1.3 Agreement and compositionality

Hinzen (2012) pursues a naturalization of semantics in a grammatical perspective. His concern is to capture how the human mind processes the "meaning" of a sentence. He notes that it cannot simply consist in the composition of the meanings of its parts, as its parts gain meaning by being in relation with one another. He therefore reverses the traditional concept of meaning depending on the nature of the external world and proposes that meaning should be conceived from the internalist perspective offered by grammar, in particular from the minimalist perspective of phases as unique complete referential objects. Compositionality is consequently reduced to a process that makes a referentially complete object (a phase) be part of the predicate of another phase, as formulated in the Principle of Phasal Composition (30):

(30) Principle of Phasal Composition (Hinzen 2012: 327)
When a referential argument becomes part of a higher phase, it functions as a descriptive predicate that helps to identify the referent of the higher phase.

According to Hinzen (2012: 333), in order for this to occur, the (Left) Edge (LE) of the lower phase $\alpha$ is targeted by the probe P of the higher phase $\beta$. Agreement is the process that allows for phasal composition. In (31), due to the probing of P in $\beta$, the LE of $\alpha$ becomes part of the description of $\beta$. The dotted and continuous lines delimit different phases each with a different referential index. When computing $\beta$ only the LE of $\alpha$ is visible, the rest of $\alpha$, namely its description YP, is not:

(31)  $[_\beta$ LE [ P [ XP ]]]$[_\alpha$ LE [ P [ YP]]]]]

Thus, referents are determined at phasal boundaries (headed by P), namely at the LE, and there is only one referent for each phase. In the Agreement relation initiated by the Probe, the referential part (the LE) of a complete phase $\alpha$ is targeted to be made part of the predicate (XP) of the superordinate phase $\beta$.[5]

Rephrasing Higginbotham's proposal in Hinzen's terms, the theta-grid of a lexical item also establishes what kind of theta-binder will close the phase at the

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**5** According to Richards (2007), the probe is the highest non-phasal head, and cannot be the head of the phase. I agree with this and assume a more complex structure in the following sections. Hinzen's point is not affected by this, and for simplicity I stick to Hinzen's formalism here.

LE. Agreement from the outside of the phase targets the theta-binder merged at the LE. In so doing, it makes it available for external computation.

Agreement is also known to be the major trigger of feature sharing. In this perspective, it is important to establish whether any type of feature sharing is involved in compositionality and whether Agreement (namely a c-command relation of a probe endowed with an uninterpretable feature onto a goal endowed with a matching interpretable feature) is the only source for it.

## 3.2 On different ways of sharing features

In recent work (Giusti 2008, 2009, 2012, 2015), I claim that feature sharing should not be unified under a single syntactic process (contra Baker 2008) because it is the result of three different relations triggered by the structure building operation Merge; namely, Projection, Agreement and Concord. I propose that a head enters the syntactic structure bundled with all its functional features (interpretable and uninterpretable, valued or unvalued). I also propose that a head entertains a local relation with all its arguments and modifiers. Thus, apart from the two most internal arguments, which are merged as complement and specifier of the head, each further argument or modifier requires remerger of the head with its own projection. This creates a series of XPs headed by the same head X. In the spirit of Giorgi and Pianesi's (1997), I call this "scattered head". I call each instance of the head X "a segment" of X. Whether one or more segments are realized in the extended projection depends on the inflectional paradigm of that head and on general syntactic requirements. For sure, following Arsenijević's and Hinzen's insights, a phase must contain a descriptive and a referential portion of structure.

For example, in (32), the N *ragazz-* is bundled with *u*Case, Number, and Gender. In Italian, a NE must have an article, which I take to be the phasal segment of N, heading the referential portion, accessible to Agreement from the outside and therefore valuing Case.[6] The lexical N is realized as one of the segments of the descriptive portion. Gender and Number are redundant on both segments. In (32), the head N combines with the relational adjective *italian-* and the subjective adjective *simpatic-*. Both modify the descriptive portion and concord for Gender and Number (cf. 3.2.2 below). All segments of N are Ns. I numerate them only to

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6 In the spirit of Pesetsky and Torrego (2001, 2004, 2007), in Giusti (2015), I propose to formulate Case as an uninterpretable feature that is valued for the category of the probe. Thus possessive genitive is *u*D, partitive genitive *u*Q, parallel to nominative as *u*T and accusative as *u*Asp. Case can be abstract or morphologically realized as usual. I refer the interested readers to that work.

make easier reference to them and I indicate the phrasal nominal head as N/D for the same reason:

(32)     [$_{N/DP}$ [$_{N/D}$ le ~~ragazze~~] [$_{NP2}$ [$_{AP}$ simpatiche] [$_N$ ~~le ragazze~~] [$_{NP1}$ [$_{AP}$ italiane [$_N$ ~~le ragazze~~]]]]]
      the     nice    girls    Italian

This proposal is strongly indebted to Grimshaw (1991) and Giorgi and Pianesi (1997), but unlike those two proposals, it takes the head of the extended projection to be endowed with all the features from its very first merge. Following Arsenijević (2007, 2015), I assume that the minimal number of projections for a phase is two: "one projection introducing an unvalued deictic feature (VP, NP, FinP/TP) and another one that c-commands it and assigns it a value (vP, DP, CP)." The number of recursive phrases in the descriptive portion solely depends on the number of arguments and modifiers present in the numeration.

     For the definite interpretation of NEs with a (so-called definite) article, I rely on Campbell's (1996) proposal, according to which definiteness is expressed by a non-overt operator in SpecDP. Giusti (2015) calls this operator IndP (Indexical Phrase). In languages with scattered heads like Italian, IndP is in the specifier of the highest overt segment of N. The structure of (32) is therefore (33), regardless of the presence of the prenominal adjective *simpatiche*:[7]

(33)     [$_{N/DP}$ IndP [$_{N/D}$ le ~~ragazze~~] [$_{NP2}$ [$_N$ ~~le ragazze~~] [$_{NP1}$ [$_{AP}$ italiane [$_N$ ~~le ragazze~~]]]]]

An overt indexical such as a demonstrative or a pronoun may require the phrasal head to be overt, as is the case of Greek (21), or covert, as is the case of English these girls, Italian *queste ragazze*. In Spanish personal pronouns must be in Spec-Head configuration with an overt segment of N/D, as in *nosotras las chicas* "we [the] girls", unlike demonstratives, cf. *estas (\*las) chicas* "these [\*the] women". We will come back to this in 3.2.2.

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**7** In this perspective, personal pronouns are pure IndPs. It is to be established whether they are always embedded in N/DP, as in the case they are used as determiners (*we linguists*) or they can directly merge with a predicate. Nothing in this paper depends on either choice, but for simplicity reasons I assume the latter choice for the time being.

### 3.2.1 Agreement targets Person features

In Giusti (2015), I propose that the $u\varphi$ to be checked on a probe by Agreement is a Person feature. Since Person is the crucial feature for reference, this is in line with Arsenijević's and Hinzen's insights that the carrier of reference is the element targeted by the probe in the Agreement relation. I also claim that the only Agreement relation that takes place in a NE is between the head N and a possessor, if there is one. A probe in the nominal bundle targets the Person feature of the possessor and remerges it in its Specifier. In so doing, it assigns genitive ($u$D) to the whole PossP, which can remain in place or be pied-piped to the specifier of the probe, as represented by the curled brackets in (34). PossP is then sent to interpretation, before the phase of the possessee reaches completion:

(34)     $[_{N/DP}$ N/D $[_{NP2}$ {PossP}$_{i\varphi}$ $[_N$ probe$_{u\varphi}]$ [ … N … $[_{NP1}$ {PossP$_{i\varphi}$} … N ]]]]

This proposal accounts for an otherwise mysterious difference between relational and possessive adjectives that can both be assigned the agent role by N. Only possessive adjectives are found in two positions (35) and can bind an anaphor (36); relational adjectives have a fixed low position (37) and cannot be binders (38):

(35)    a.    la   nostra / loro   brutale invasione dell'Albania
             the our      / their brutal   invasion   of-the Albania

       b.    la   brutale    invasione nostra / loro   dell'Albania    (non quella
             the invasion brutal     our     / their of-the Albania (not   that
             vostra)
             your)
             'our / their brutal invasion of Albania, not yours'

(36)    a.    la   loro   descrizione di se stessi         / stesse
             the their description of themselves.M/F

       b.    la   nostra descrizione di noi         stessi / stesse
             the our     description of ourselves.M/F

(37)    a.    *l'italiana    invasione brutale dell'Albania
             the Italian invasion   brutal   of-the Albania

       b.    la   brutale    invasione italiana dell'Albania
             the invasion brutal     Italian   of-the Albania
             'our brutal invasion of Albania'

(38)    a.    *la    descrizione italiana di se stessi/stesse
             The description Italian   of themselves.M/F

  b.  *l'ammirazione  presidenziale di se stesso / stessa
      the admiration presidential   of himself  / herself

The contrast between (35) and (37) is accounted for if, like subjects in the clause, possessives are locally merged in the lexical layer of NP, where they saturate an open position in the theta-grid of N and are then targeted by a probe activated in the high portion of the NE. Unlike possessives, relational adjectives are not targeted by Agreement. This is directly derived by the proposal that in the Agreement process, $\varphi$ is Person, the same feature that makes an element able to bind. In fact, unlike possessives, in (36), relational adjectives are not possible binders, as shown by the ungrammaticality of (38). The Person feature targeted from the outside of the NE is provided by the IndP in SpecN/DP, cf. (33) above, in case of a full genitive expression (as in *John's book*). Italian does not have such a possibility. The only case of overt movement of the possessor is found in (35a) with the possessive pronoun *loro* ('their'), which I take to be a bare IndP, or the possessive adjective *nostra* ('our'), which I take to be a bare IndP embedded in an AP.

According to Richards (2007), the probe initiating Agreement is not the head of the LE, but the highest non-phasal head. This is accounted for if compositionality requires that a hierarchically lower phase is sent to interpretation immediately before the next phase is composed. It also accounts for the fact that the referent of the possessee is partially identified by the referent of the possessor. I therefore take the probe to be the initial segment of the referential portion of the phase. This leaves space for the merger of an independent IndP in SpecN/DP, which is necessary to complete the phase. The presence of an overt possessor in the highest non-phasal specifier, however, interacts with the overt / covert nature of the phasal segment. This explains the variation noted in 2.4 regarding the compatibility or incompatibility of prenominal possessors with other determiners. In other words, the realization of the highest segment is parametrically dependent on the nature of the immediately lower segment.

### 3.2.2 Concord targets Gender and Number

The features shared in the Adjective-Noun relation may include Gender and Number (as in Romance), nominal class (as in Bantu), Case (as in Latin or German), and apparent definiteness (as in Germanic weak / strong morphology), but not Person (cf. Baker 2008: 1). In Giusti (2015), I propose to distinguish this kind of feature sharing from Agreement. I call it Concord, following Baker's terminology, but arguing against his unifying proposal. In Concord, uninterpretable features of a projection in specifier position are checked on the spot against the features of

the head. Thus Concord does not involve c-command of a probe onto a goal, but only a Spec-Head relation.

APs are optional modifiers; they do not generally merge to saturate an open position in the theta-grid of the head. On the contrary, A has one or more open positions that must be theta-identified against the open position <E> of N. Note that AP is not a phase in Arsenijević's and Hinzen's terms in that it does not have individual reference. Concord therefore satisfies uninterpretable features (uF) of A against the features (F) bundled with N, as in (39):

(39)    'Concord'
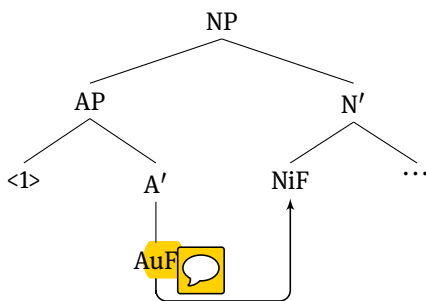


In (39), neither projections are phases. NP is an intermediate projection of a nominal phase, while AP is a predicate (which is interpreted as a property of the referent of N, part of its description). Valuation of *u*F against the features of N is the morpho-syntactic counterpart of Higginbotham's theta-identification. Note that keeping Agreement and Concord as two separate processes allows us to distinguish possessive adjectives in Italian (cf. feminine singular *nostra* in (35)-(36)), which agree and concord with N, from possessive pronouns which only agree and do not concord (cf. *loro* in (35)-(36)).

Giusti's (2015) proposal of projection applied to Higginbotham's (27b) is given in (40). The discharger of <1> is Mary, an independent Phase (N/DP). I take the discharger of <E> to be a null indexical IndP. The discharged theta-role is marked with a star <1*>, The two roles <1> and <E> associated with N are discharged in separate applications of Merge, creating NP1 and NP2 respectively; while the AP theta-identifies its roles in the Concord relation in NP3:

(40)

NP₃

AP<1*>,<2*>     N′

A_uF   *fatal*     N̶E̶<1*>,<E*>     NP₂

IndP     N′

3sg.     N̶E̶<1*>,<E*>     NP₁

N/DP     N′

*Mary*     N̶<1>,<E>   *slip*
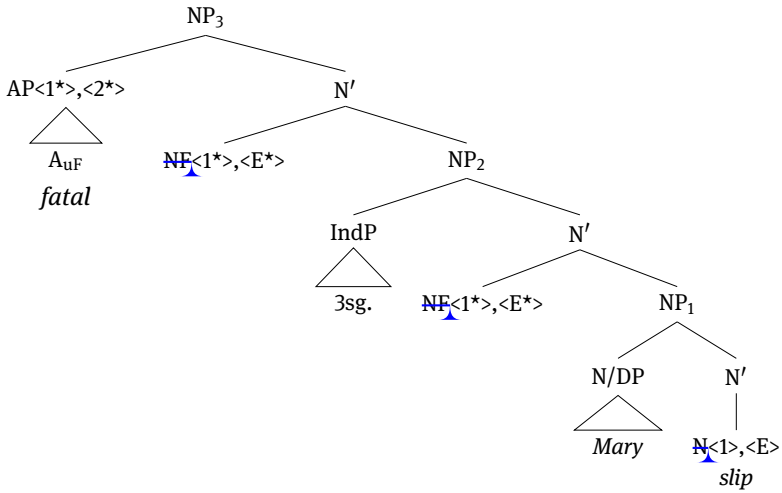
In the following section, I substantiate how this proposal can explain the dual adjectival vs. indexical nature of demonstratives.

# 4 Proposal

In this section, I propose that possessives and demonstratives have two merging positions. Possessives are independent phases. As such, they saturate the theta-grid of N and must be sent to interpretation (by Agreement) before the nominal phase has reached completion. Although demonstratives are not sent to interpretation independently of the NE, they behave in a similar way. They saturate the highest position in the theta-grid of N and must reach the Left Edge of the nominal phase in order complete the phase, because they provide the Person feature to the NE. I call the attraction that the phasal segment N/D exercises on the Person feature ~~which~~ is part the the featural composition of a demonstrative "internal Agreement".

## 4.1 Two merger positions

Cinque (2005) and Adger (2012) independently claim that a demonstrative is directly merged in the highest position of the adjectival hierarchy. If they are right, postnominal demonstratives must be either due to the right branching nature of the Edge (Adger 2012) or to the application of roll-up movement of the whole NE

around a left branching Edge (Cinque 2005). In the latter case, the Left Edge where the demonstrative sits should be split in at least two projections. This is not problematic in the framework proposed here, given that the referential portion or the NE must be split to comply with Richard's (2007) observation that probes must be non-phasal. It is also quite reasonable if we consider that parallel to clauses, NEs can have a split left periphery which hosts displaced elements carrying discourse features such as topic or contrast (cf. Giusti 1996, 2006, 2012, 2015).

Direct merger of the demonstrative in SpecDP predicts that the order Num A Dem N is non-existent, as seems to be the case (Cinque 2005). However, it does not accommodate for the strandability inside the NE of parts of the demonstrative, which looks parallel to the strandability of parts of the possessor, and ultimately to floating quantifiers from subject position (cf. Sportiche 1988).

As noted by Brugè (1996, 2002), Bernstein (1997), a demonstrative can be associated with a locative adverb of PP which must match its distance features, as shown by the ungrammaticality of distal *allí* ("there") cooccurring with proximal *este* ("this") in (41a) and of proximal *aqui* ("here") cooccurring with distal *aquel* ("that") in (41b):

(41)  a.  el  chico [ este [ de aqui / *allí   ]]
          the boy    this   here    / *there
      b.  el  chico [ aquel [ de allí  / *aqui ]]
          the boy    that    of there / *here

The same restrictions of cooccurrence are found when the demonstrative is in SpecN/DP (42). Brugè takes this to support her analysis parallel to Sportiche's (1988) well known argument of floating quantifiers in favor of the VP-internal subject position:

(42)  a.  [$_{N/DP}$ este D [ chico [ ~~este~~ [ de aqui / *allí   ]]]]
              this      boy          of here / *there
      b.  [$_{N/DP}$ aquel D [ chico [ ~~aquel~~ [ de allí  / *aqui ]]]]
              that      boy            of there / *here

A similar case can be made for possessives. For example, Old Italian possessive adjectives reinforced by *proprio* ("own") can remain *in situ* as in (43a), or be moved leaving the reinforcer stranded, as in (43b), or be moved pied-piping the reinforcer, as in (43c), (cf. Giusti 2010):

(43)  a.  la  vertude [ sua [ propia ]]    (Dante, Convivio, p. 393)
          the virtue     his   own

    b.   la   sua vertude [ ~~sua~~ [ propia ]]    (Dante, Convivio, p. 368)
        the his  virtue         own
        'his own virtue'

    c.   lo   [ suo [ proprio ]] strumento   (B. Latini, Rettorica, p. 4)
        the  his   own      tool
        'his own tool'

The 3rd Person possessive *suo* can be overtly specified for the Gender and Number of the referent by merging it with a personal pronoun: *suo di lui* ("his", cf. (44a)), *suo di lei* ("her"), or *suo di loro* ("their"), which do not need to be exemplified here; or with a full NE (*sua di Castruccio*, cf. (44b)):

(44)    a.   a' suoi succiessori [ ~~suoi~~ [ di lui  ]] nella  seggia di Roma
          to his  followers       of him  in the seat   of Rome
          'To those who succeeded him on the Roman Chair'
                                    (Marsilio Defensor pacis volg., p. 308)

       b.   molti  di sua gente   [ ~~sua~~ [ di Castruccio ]]
          many of his  people        of Castruccio
          'many of Castruccio's folks'
                                      (G. Villani, Cronica, 9.223)

The parallel between possessives in the NE and subjects in the clause is straightforward in the hypothesis that possessors, parallel to subjects, agree and for this reason they are first-merged in the descriptive portion (to saturate theta-positions) and then remerged in a position immediately lower than the Edge.

    The discontinuity between a demonstrative and its locative reinforcer could be analyzed in the same vein, if there are independent reasons to first merge the demonstrative in an NP-internal position and then remerge it at the Edge. In what follows I elaborate a proposal that distinguishes external Agreement, which sends the targeted phase to interpretation, from internal Agreement, which closes the phase before it is targeted from the outside.

## 4.2 The featural composition of demonstratives

Demonstratives come cross-linguistically in four different classes, which I reformulate in my own terms given in parentheses: pronouns (independent indexicals), determiners (adnominal indexicals), adverbs (adverbial indexicals), identifiers (impersonal indexical that can be subjects of identificational predications). It is possible that two or more of these classes are realized by the same vocabulary item, as is the case of the languages under consideration, but it is also possible that they are differentiated. I take this generalization to show that demonstratives

contain a locative feature and an indexical that can be freely introduced in syntax (such as a pronoun) or can combine with a nominal category to turn it into a phase.

Diessel (2006) claims that demonstratives "serve two closely related [communicative] functions: First, they indicate the location of a referent relative to the deictic center. Second, they serve to coordinate the interlocutors' joint attentional focus." (p. 469). Thus, demonstratives are intrinsically carriers of 3rd Person, as they point to an object which is distinguished from the speaker and the hearer. They locate such a referent in space: the exophoric space (with pointing) or the discourse (with anaphoric function). As presented in 3.1.2 above, according to Arsenijević, they saturate the DISTANCE feature to make the phase complete. I propose that they provide the Person feature to be targeted in external Agreement. This suggests that they do not have intrinsic nominal features, as their communicative function is to contribute the interlocutors' joint attentional focus on a referent. For this reason, it is expected that when a demonstrative is adnominal, it needs to value Number and Gender through Concord with N. In (45) I propose the featural composition of a demonstrative, which is composed of an *i*(nterpretable) 3rd Person feature, an *i*(nterpretable) value for Distance (in languages which distinguish more than one distance), and an open position <1> to be theta-valued through Concord (Gender, Number and Case Concord may be triggered, according to the inflectional properties of the demonstrative):

(45)     *i*Person:3rd, iDistance:x, <1>

The featural composition of a demonstrative in (45) allows it to form a constituent with a Locative PP. In (46) the demonstrative is the specifier of a locative PP (*à la* Brugè 1996, 2002), in which the adverbial is predicated of the demonstrative. Note that the Dist feature on Dem and Adv must have the same value:

(46)
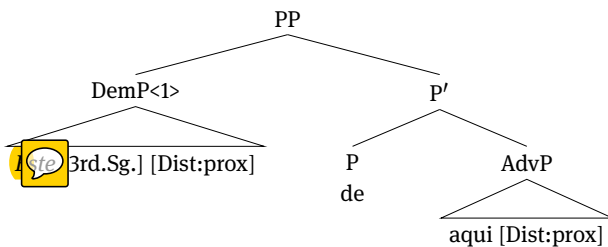
## 4.3 Two sorts of Agreement

Let us now apply Projection to the well known examples by Brugé (1996, 2002) that show that in Spanish a postnominal demonstrative precedes a postnominal possessive adjective:

(47)    a.    el    quadro redondo este de aqui suyo
             the picture round     this of  here her
       b.    *el quadro redondo suyo este de aqui

In (48), the possessive AP saturates position <1> in NP1. The locative PP saturates position <E> in NP2 (the DISTANCE position, in Arsenijević 2007). This straightforwardly captures the hierarchy. N remerges with the descriptive adjective *redondo*, which theta-evaluates an open position through Concord in NP3. N remerges in NP4, because *redondo* is a postnominal adjective, and as such, requires the segment with which it has merged to be covert:

(48)
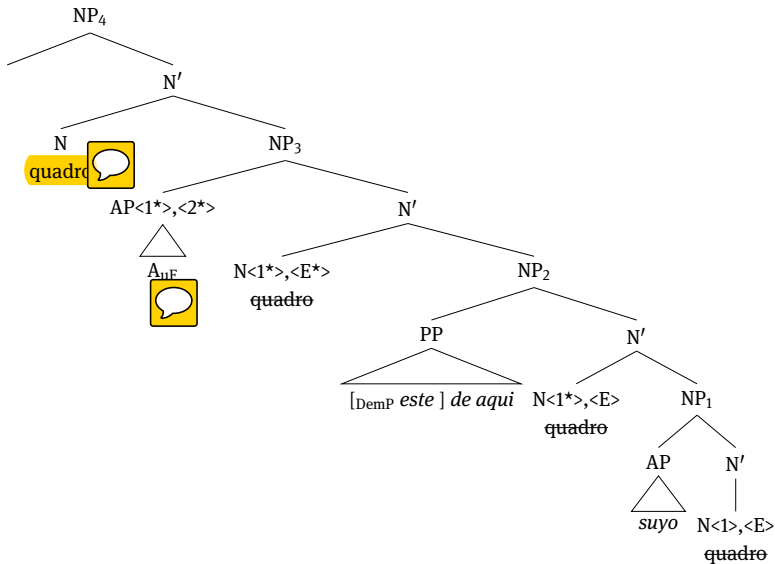


Structure (48) represents the descriptive portion of the NE. At this point, the internal argument (*suyo*) must be sent to interpretation.

     In (49), the possessive adjective is targeted by a covert probe, activated in the highest non-phasal segment of N, here NP5. Recall that the function of the Probe is to send the embedded phase to interpretation, before the Edge of the in-progress phase is merged, which would make the embedded phase opaque. The saturator

of <E> is not an independent phase; it could not check the $u\varphi$ of the Probe. This is why it does not create a relativized minimality effect with the possessor.[8] As in (34), the covert probe targets the Person feature ($i\varphi$) of *suyo* and remerges it in its specifier. The form suyo Spanish never remerges, while the weaker form *su* does remerge:

(49)    $[_{NP_5} [i\varphi] [_N \text{probe}_{u\varphi}] [_{NP_4} [_N \text{quadro}] \dots [_{NP_2} \text{PP<E> N<E*>} [_{NP_1} [_{AP} \text{suyo}_{i\varphi}]]_{<1>} \text{N<1*><E>}]]]$

When the probe targets the Person feature of the ~~embedded~~ AP, it sends ~~the possessive adjective~~ to interpretation as an independent referent, and locates it in a given relation (proximity / distance in Arsenijević's 2007, 2015 terms, the R-relation in Higginbotham's 1985, 1987 terms) with the referent of the phase under construction. Once this is done, the phase of the possessee can proceed to completion, with the phasal head re-merged with a Edge, which must carry an index (a Person feature). This will allow for the NE to be part of the description of a superordinate phase.

As observed above, demonstratives are intrinsically 3rd Person, as in (45), this Person feature must reach the Edge of the nominal phase in order to provide it with an index accessible from the outside. The head N/D is a special type of probe, in that it does not carry a $u\varphi$ targeting a lower complete phase but rather the opposite. ~~On the contrary,~~ it will be targeted by Agreement from the outside. I indicate this with a $u$Case feature. Following Pesetsky and Torrego (2001, 2004, 2007), this is an unvalued uninterpretable categorial feature that remains uninterpretable, but needs to be valued by an external probe (also cf. footnote 7).

Thus the head N in (49) remerges to build the phasal projection labeled N/DP in (50). The only way for $u$Case to be targeted from the outside is to have an $i$Person in its Specifier. I propose to call this type of probing "internal Agreement". N/D$_{u\text{Case}}$ therefore probes the [$i$Pers] feature of Dem in the PP filling the specifier of NP2:

(50)    $[_{N/DP} [i\text{Pers}] \text{N/D}_{u\text{Case}} [_{NP_5} [i\varphi] [_N \text{probe}_{u\varphi} [_{NP_4} \text{quadro}] \dots [_{NP_2} \text{Dem}_{i\text{Pers}} [ \text{N} [_{NP_1} \text{suyo N}]]]]]$

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8 Also the saturator of <1> may not be an independent phase, as is the case of relational adjectives saturating the AGENT theta-role but not being targeted by P, as we saw in (35)-(38) above.
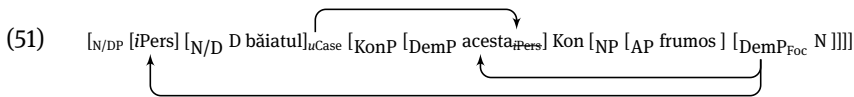
# 5 Results

At this point, we can go over the properties observed for demonstratives in section 2 and examine how the proposal straightforwardly derives them.

The similarity with adjectival behavior noted in 2.1 is derived by the need for adnominal demonstratives to concord for nominal features. Differently from adjectives, however, demonstratives concord with the phasal head (N/D), which is valued for Case by an outer probe. For this reason, demonstratives carry case morphology in a language that has such inflection and are the last elements to lose it, as is the case of Romanian (6)-(8) above. This also explains why demonstratives are typically the base to form definite articles, namely overt phasal heads which are assigned Case.

The property of demonstratives to be edgers noted in 2.2 is derived by the proposal that demonstratives provide the NE with a Person feature, which reaches the Edge in order for the nominal phase to be complete and to re-enter the cycle.

This proposal also derives the property noted in 2.3 to display more than one position. The Person features at the Edge does not always pied-pipe the whole demonstrative, it may leave the DemP in place, as in Spanish (18c-d). Pied-piping of the demonstrative to the Edge also interacts with the possibility, in some languages, that the left periphery of the NE be split. This is the case of the "second" position of demonstratives in Romanian and Latin.

In Romanian (17), demonstratives are the leftmost specifiers and can only be preceded by a bare N inflected for the definite article. Giusti (2005) proposes that the left periphery of the Romanian NE is split into DP > KonP. Reformulating that proposal in the present terms, in (50) the demonstrative moves to KonP to check the Contrast feature with which it is endowed, while the higher N/DP is instantiated by the overt N inflected for the definite article (uCase). In order for this to occur, SpecN/DP must host iPerson. For this reason N/D "internally agrees" with DemP targeting its iPerson, which covertly moves to SpecN/DP:

(51)    $[_{N/DP}$ [iPers] $[_{N/D}$ D băiatul]$_{uCase}$ $[_{KonP}$ $[_{DemP}$ acesta$_{iPers}]$ Kon $[_{NP}$ $[_{AP}$ frumos ] $[_{DemP_{Foc}}$ N ]]]]

The analysis in (51) correctly predicts the ungrammaticality ~~for~~ a contrasted demonstrative ~~to be~~ preceded by an inflected adjective (17d-e). As argued by Dimitrova-Vulchanova and Giusti (1998), fronted adjectives are maximal projections in specifier positions and would occupy the position reserved to iPers, leaving the left edge without proper interpretive features.

The "second" position of demonstratives in Latin must be accounted for in a different way, as it can be preceded by an adjective and not by the head N (cf. (20) above). According to Giusti and Iovino (2016), the Left Periphery of the Latin is split in the opposite way than in Romanian (or Italian) with the Left Periphery (here KonP) preceding DP. The possible order in (20b) is therefore derived by pied-piping of the demonstrative to SpecN/DP, which can be preceded by a contrasted adjective, as in (52):

(52)     $[_{KonP}$ AP$_{Kon}$ Foc $[_{N/DP}$ $[_{DemP}$ Dem$_{iPers}]$ $[_{N/DP}$ N$_{uCase}]$ $[_{NP}$ [AP] $[_{NP}$ DemP N ]]]]

Finally, the proposal also predicts the cooccurrence patterns noted in 2.4. Demonstratives do not compete for the same position of articles, which are the overt phasal segments of Ns, nor of possessives, which are targeted by the highest non-phasal segment, as they must be sent to interpretation before the nominal phase is completed. Demonstratives only compete with personal pronouns, which are the other overt carriers of Person features that can be found in adnominal position.[9]

Moreover, the impossibility to extract a DemP (or an AP) creating a discontinuous phase can be related to the fact that Concord freezes the element in Specifier position. Let us first take the case of a pronominal possessive in Italian. It can extract only if it is embedded in a PP, as in (53). If it is a genitive relative pronoun (54a) or a concording possessive adjective (54b), or a genitive personal pronoun (54c), it cannot:

(53)     a.    Gianni [ di cui]    tutti        conoscono [ il    fratello [ di cui ]]
              G.         of whom everybody knows        the brother

---

**9** An anonymous reviewer reports examples such as the one in (i) as counterexamples to the claim of true complementarity of pronominal determiners and demonstratives:

(i)      Quell'io giovane che    entro  mi    rugge.
         That     I        young which roars inside me
         'That young side of me which is roaring deep inside'

I think (i) and similar cases are instances of categorial coercion of the pronoun into a lexical N. The 3rd Person agreement on the predicate in (23a-b) and (i) shows that the *io* in (i) does not provide any Person feature to the NE, unlike what happens when a pronoun cooccurs with N, as in *Noi donne siamo/\*sono impegnate* ("we women are.1pl/\*are3pl busy"). The example in (i) is therefore evidence in favor of our hypothesis. A true demonstrative can never coccor with a true pronoun.

b. Gianni, [ il cui   fratello [ ~~cui~~ ]] tutti       conoscono
G.,        whose brother         everybody knows

c. [ Di chi]   conosci      [ un fratello [ ~~di chi~~ ]] ?
Of whom do-you-know   a   brother

d. solo [ di lui] conosco   [ tutti i   fratelli   [ ~~di lui~~ ]]
only   of him do-I-know   all   the brothers

(54)   a. *Gianni, [ cui]   tutti       conoscono [ il   [~~cui~~] fratello ]
G.,        whose everybody knows        the         brother

b. *solo suoi/nostri conosco   [ i   ~~suoi/nostri~~ fratelli]
only his/our     do-I-know   the               brothers

c. *solo loro conosco   [ i   ~~loro~~     fratelli]
only their do-I-know   the brothers

Although *cui* and *loro* in (53)-(54) are not adjectives, I assume that not only do they agree, but ~~the~~ also concord covertly in the highest non-phasal specifier, differently from the PPs, which are not pied-piped in the Agreement process. I propose that Concord fuses these elements, as well as adjectives of any kind, with the covert segment of N with which they concord, thereby freezing them in the Concord position.

The cases of adjective and demonstrative extraction in Latin (9) and Serbo-Croatian (12) are related to the possibility for these languages to split the referential portion of the nominal structure in two projections ordering the N/DP lower than KonP, as in (52) above. In Serbo-Croatian this position is only available to adjectives, while Genitive possessors are frozen in their non-phasal position. This is not the case of Latin.

Giusti and Iovino (2016) argue that the Left Periphery even allows iterated extraction in Latin. The modifier of a genitive DP can be extracted through the possessee Left Periphery and ~~be~~ remerged in the clause by scrambling (cf. *pristinae* in (53a)), wh-movement (cf. *cuius* in (53b)), or fronting to the Left Edge of the upper NE (cf. *huius* in (53c)):

(55)   a. Quorum          in consilio            […] pristinae
whose.M.PL.GEN in decision.N.SG.ABL      old.F.SG.GEN
residere        [[ ~~pristinae~~ virtutis        ] memoria]
dwell.INF.PRES                 virtue.F.SG.GEN  memory.F.SG.NOM
videtur
it-seems
'The memory of the OLD virtue seems to dwell in their decision'
(Caes. Gall. 7,77,4)

    b.   cuius       illum         [[ ~~cuius~~ rei]
          who.~~GEN.F.SG~~ that.~~ACC.M.SG~~     thing.~~GEN.F.SG~~
          sapor]        excitet
          taste.~~NOM.M.SG~~ excites
          'whose taste excites him'             (Sen. epist. 5,47,8)

    c.   Sed abiit    [ huius     [ tempus    [ ~~huius~~
          but is-far-away  this.~~GEN.F.SG~~ time.~~NOM.N.SG~~
          querellae       ]]]
          regret.~~GEN.F.SG~~
          'But the time of this regret is far away'     (Cic. Cael. 74)

In all cases in (53), the element remerges only one more time than the full genitive NE. In (53a) the genitive NE *pristinae virtutis* is in the (split) left periphery of the NE headed by *memoria*, which is the subject of a raising construction. The modifier *pristinae* is then remerged alone to the left periphery of the immediately higher phase, the vP headed by the raising verb *videtur*. In (53b) *cuius rei* is in the (split) left periphery of the NE headed by *sapor*, which is the subject of the finite verb *excitet*. The genitive pronoun *cuius* is then remerged in the clausal left periphery to check the relative features. In (53c) the demonstrative *huius* is the Left Edge of the postnominal genitive *huius querellae*. It then remerges at the (split) left periphery of the immediately higher NE. I refer the interested reader to that paper for further discussion.

To conclude, in this paper I have argued that adnominal demonstratives have the dual function of saturating the <E> position of N and of contributing the Person feature to the nominal phase. In so doing, they behave as arguments of N. But differently from (possessive) arguments, they are not independent phases. I called the process that triggers remerger of the Person features to the Edge of the nominal phase "internal Agreement" and proposed that it is triggered by the need of the NE to have an indexical that must be visible to the upper phase. This directly correlates with the need for Case. Like some externally agreeing elements (e.g. adjectives), demonstratives also concord for nominal features (Gender, Number, and Case). Concord freezes adjectives and demonstratives in their final position, unless the language has a split Left Periphery with a ~~high~~ Left Periphery which can serve as an escape hatch.

This proposal naturally captures a number of well known properties of demonstratives thereby unifying the three different treatments they have received in the literature, namely as determiners, as adjectives and as exophoric elements of the "third type".

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