Agreement, case and locality in the nominal and verbal domains

Edited by

Ludovico Franco

Mihaela Marchis Moreno

Matthew Reeve

language
science
press

Open Generative Syntax

Editors: Elena Anagnostopoulou, Mark Baker, Roberta D'Alessandro, David Pesetsky, Susi Wurmbrand

In this series:

1. Bailey, Laura R. & Michelle Sheehan (eds.). Order and structure in syntax I: Word order and syntactic structure.

2. Sheehan, Michelle & Laura R. Bailey (eds.). Order and structure in syntax II: Subjecthood and argument structure.

3. Bacskai-Atkari, Julia. Deletion phenomena in comparative constructions: English comparatives in a cross-linguistic perspective.

Agreement, case and locality in the nominal and verbal domains

Edited by

Ludovico Franco

Mihaela Marchis Moreno

Matthew Reeve

Franco, Ludovico, Mihaela Marchis Moreno & Matthew Reeve (ed.). 2019.
Agreement, case and locality in the nominal and verbal domains (Open
Generative Syntax 99). Berlin: Language Science Press.

Freie Universität Berlin

Contents

Chapter 1

Extraction from DP in French: A Minimalist approach

Guido Mensching

Georg-August-Universität Göttingen

This article is about the extraction of French PP complements of nouns headed by de, mostly in wh and relative clause contexts. After a review of the literature on extraction in French, it addresses the issue of the constraints on extraction in cases with multiple arguments, eventually following Kolliakou (1999) in assuming that there can only be one argument of a noun, whereas other expressions are adjuncts. I then explain the relevant extractions within the Minimalist Program: on the assumption that DPs are phases, an extracted item must first move to the phase edge, as assumed in previous accounts. The exact extraction mechanism is then modeled by assuming a phi-probe plus an unvalued operator feature on the D head. The fact that only complements introduced by the preposition de can be extracted from the DP is explained by considering de as a post-syntactic marking for genitive case, which is assigned by the phi-probe.

1 Introduction

1.1 Aims and organization of the article

This article readdresses the extraction of elements from a DP, which has been a topic for the last fifty years or so within the context of long-distance dependencies and DP islands (cf. Ross 1967; **Sportiche1981 Huang1982 Obenauer1985Connectedness**; **Obenauer1985identification**; **Obenauer1994 Chomsky1986Barriers Cinque1990 Szabolcsi2006** among many others). I concentrate on French, a language for which the phenomena at issue have been intensely discussed within generative grammar, in particular in the 1980s and 1990s (e.g. by **Tellier1990 Sportiche1981**

Obenauer1984 Pollock1989 Valois1991 Godard1992). Before going into the reasons that motivate my reopening this debate, let me illustrate the structures that I am interested in.

> There is no Obenauer 1984 reference; do you mean Obenauer 1994?

(1) a. * Qui connais-tu [$_{DP}$ l' homme qui a vu qui] ?
            who know-you   the man   who has seen whom

     'Who do you know the man who has seen __?' (cf. **Sportiche1981** 222)

   b. * [$_{PP}$ De qui] est-ce que [$_{DP}$ la secrétaire ~~[$_{PP}$ de qui]~~ t'a
             of whom is-this that   the secretary   of whom you.has
        téléphoné?
        called

     'Of whom has the secretary __ phoned?' (cf. **Tellier1990** 306–307)

(2) a. * [$_{PP}$ Sur qui] as-tu lu [$_{DP}$ le livre [$_{PP}$ sur qui]] ?
             on whom have-you read   the book   on whom

     'On whom have you read the book __'?

   b. * [$_{PP}$ A qui] avez-vous vu [$_{DP}$ une amie [$_{PP}$ a qui]] ?
             to whom have-you seen   a friend   to whom

     'Of whom have you seen a friend __? (similar to **Grosu1974** 312, Footnote 3)

   c. [$_{PP}$ De qui] avez-vous vu [$_{DP}$ une photo [$_{PP}$ de qui]] ?
            of whom have-you seen   a photo   of whom

     'Of whom have you seen a photo __?'

   d. [$_{PP}$ De quel livre] connais-tu [$_{DP}$ la fin [$_{PP}$ de quel livre]] ?
            of which book know-you   the end   of which book

     'Of which book do you know the end __?' (cf. **Sportiche1981** 224)

The examples in (1a–b) illustrate a complex DP island and a subject island, respectively. These structures involve the extraction of a constituent (in this case a *wh* element) from a deeply embedded syntactic region (usually a clause) within a DP, or from a DP that is a subject. Extractions from complex DP islands and subject islands are usually considered as ungrammatical in all languages and are not the focus of this article.[1] Instead, I will be mostly concerned with cases

---

[1] This constraint does not hold for all subjects, but mainly for subjects of transitive and unerga-

like those in (2), i.e. the extraction of a PP from a complement or adjunct DP. Without considering the status of the PP for now, the data in (2a–d) suggest that, in French, extraction of a PP that contains a *wh* element is grammatical when the PP is headed by the preposition *de* and ungrammatical with other prepositions. These facts also apply to relative clauses:[2]

(3)   a.   le   linguiste [$_{PP}$ duquel/dont][3] tu   as   lu   le   livre [$_{DP}$ [$_{PP}$
           the   linguist   of.which   you have read the book

           duquel/dont]]
           of.which

           'the linguist of (= by) whom you have read the book __'

   b.   * le   linguiste [$_{PP}$ sur lequel / sur qui]   tu   as   lu   le   livre [$_{DP}$
           the   linguist   on   which / on   whom you have read the book

           [$_{PP}$ sur lequel / sur qui]]
              on   which / on   whom

           'the linguist on whom you have read the book __'

As we shall see, this first rough approximation needs some refinement, and, in addition, problems arise when the DP contains more than one PP headed by *de*, as shown in (4a,b) from Milner (**Milner1978**; **Milner1982** quoted in **Sag1994**). Although the relative element *dont* is generally exempt from the subject condition mentioned above, hence the grammaticality of (4a), the example in (4b) is ungrammatical:[4]

---

tive verbs; cf. e.g. **Chomsky2008** (see **Broekhuis2005** 64–65 for discussion); for French cf. **Tellier1991** For other exceptions, see **Truswell2005** and the references mentioned there, in particular with respect to "possessor extraction", to which the French cases mentioned by **Tellier1990** for the relative element *dont* (also cf. **Heck2008**; Heck 2009) can be argued to belong. **Stepanov2007** claims that subject islands are not universal, in contrast to adjunct islands.

[2]And, in addition, to focusing via fronting (if available) and clefting, see (22c) and Footnote 16 in §4.

[3]French has a relative complementizer *que*, which cannot be used after prepositions and is thus irrelevant here. After prepositions, we find the relative pronoun *lequel* (fem.: *laquelle*, plur.: *lesquels/lesquelles*), which combines with the preposition *de* in the masculine singular and plural forms (*duquel*, *desquel(le)s*). The element *dont* is invariable and equivalent to *duquel*, *de laquelle*, *desquel(le)s*, thus representing a kind of relative pro-PP. In addition, for persons, *de qui* 'of whom' can be used. I will assume here that relative pronouns move to [spec,CP], pied-piping the preposition (i.e. the whole PP moves). I will not consider **Kayne1994**'s (**Kayne1994**) raising-analysis of relative clauses, nor the idea that *dont* might better be analyzed as a complementizer. However, my approach presented in §4 can easily be made compatible with these theories.

[4]See Footnote 1.

(4) a. M. X [$_{PP}$ dont]   [$_{DP}$ la maison [$_{PP}$ de Le Corbusier] [$_{PP}$
      Mr. X   of.whom   the house   of Le C.
      dont]]   n' est guère confortable.
      of.whom NEG is hardly comfortable
      'Mr. X, whose house of (= by) Le Corbusier __ is hardly comfortable.'

  b. *Le Corbusier [$_{PP}$ dont]   [$_{DP}$ la maison [$_{PP}$ dont]   [$_{PP}$ de M.
      Le C.   of.whom   the house   of.which   of Mr.
      X]] n'   est guère confortable.
      X   NEG is hardly comfortable
      'Le Corbusier, by whom the house __ of Mr. X. is hardly comfortable.'

   Similar facts can also be observed when extraction takes place from a direct object. There have been several proposals in the literature mostly assuming a thematic hierarchy (such as, e.g., **Pollock1989 Godard1992**), but this problem has never been fully resolved. The goals of this article are (i) to readdress the question of which constituent can be extracted in cases like (4) by adapting a very promising approach by Kolliakou (1999), which was formulated within the HPSG framework and has never been considered in the minimalist literature; (ii) to explain the extraction mechanism within a minimalist probe-goal approach (following Chomsky 2000 et seq.). Both goals are connected in the following sense: Kolliakou's approach assumes that, when there is more than one PP headed by *de* in a DP, only one is an argument and the other one is an adjunct (in particular, a property-denoting expression, see **Chierchia1982**; **Chierchia1985**), which cannot be extracted. But since there is no general ban in UG against the extraction of adjuncts, a minimalist analysis must be able to predict this property of extractions from DP. The approach I suggest at the end of the article builds on the old idea that cyclic movement must use [spec,DP] as an 'escape hatch' (cf. among others **Gavruseva2000** following older ideas that go back to **Cinque1980**). In the Minimalist Program, this means that the DP is a phase (see, e.g. **Heck2008**; Heck 2009, among others), and consequently, extractions must pass through its phase edge. In the constructions at issue, [Spec,DP] acts as a kind of filter that admits only argumental DPs. In a framework such as Chomsky (2000 et seq.), argumental DPs must be identified by an unvalued case feature. In my approach, this case feature is checked and valued as [genitive] by the D head, which leads me to adopt a view that treats 'genitive' *de* in French as a kind of case marker rather than a preposition.
   This article is organized as follows. In the rest of the introduction (§1.2), I ex-

plain the framework I adopt (in particular concerning A'-movement in a probe-and-goal-based approach). In §2, I present some of the basic data at stake and summarize the discussions that took place within the GB framework. I then turn to Kolliakou's (1999) explanation of the data shown in (4) and finally develop a tree structure that is compatible with Kolliakou's view. §3 summarizes two approaches (**Gutiérrez-Bravo2001 Cinque2014**) that analyze data from Spanish and Italian, respectively, using phase-based approaches, which are not, however, formulated according to the feature-checking system of Chomsky (2000 et seq.). Nevertheless, both solutions offer some important insights, namely that the mechanism for extraction of material from within a DP is related to the assignment of genitive case in Romance, and that movement to the phase edge of DP at least partially involves properties of A-movement. In §4 I develop my own analysis, arguing that the data at issue can be explained straightforwardly by applying Chomsky's (2000 et seq.) probe-goal mechanism, and, ultimately, by the feature composition of French D heads. In particular, my original proposal amounts to saying that D heads contain two phi probes, one that is responsible for agreement between D and the N head, and another one that takes the complement of N as a goal, valuing its unvalued case feature as [genitive]. This second probe has an optional unvalued operator feature that comes along with an [EPP]-feature, which ultimately licenses the extraction. The article ends in §5 with some conclusions. Note that most of the ingredients of my own approach can be found elsewhere, but, as far as I can see, this is the first time that they have been coherently put together using the machinery assumed in a modern minimalist framework.

1.2 Theoretical framework

For the minimalist analysis, I assume phase theory and the probe-goal approach of Chomsky (2000 et seq.). According to phase theory, syntactic structure is built up in a step-wise fashion, where some categories (such as v and C, but crucially not T) are so-called phase heads. Every time such a phase head has projected its full structure (vP, CP), the phase domain (which is the whole complement of the relevant phase head) is sent to Spell-Out and is therefore not available for further syntactic operations.[5]

Movement of elements related to the case-agreement system is implemented by unvalued phi-features on a functional head. Such features are called probes, which search the tree downward (under c-command) for a matching goal (valued

---

[5]Ultimately, this follows from the *Phase Impenetrability Condition* (PIC). For the cases at issue here, it is irrelevant whether we adopt the version of Chomsky (2000: 108) or Chomsky (2001: 13–14).

phi-features). A valid goal is identified by an unvalued case feature. Matching of features triggers the operation Agree, which basically consists of three steps: (i) the probe's unvalued phi-features receive the values of the goal; (ii) the goal's unvalued case feature is valued according to the nature of the head that bears the probe (e.g., [Nom] in the case of T, [Acc] in the case of v, and – as I will argue – [Gen] in the case of D); (iii) the goal is licensed for movement, which takes place if the category that bears the probe has an [EPP]-feature (essentially an instruction to project a specifier) that is not checked otherwise (e.g. by an expletive). In this article, I will not consider further elaborations of the probe-goal framework such as Pesetsky & Torrego (2007) or Zeijlstra (2012), although my solution can be easily implemented in these and other frameworks.

> I changed the Zeijlstra reference to the journal article from 2012

The probe-goal approach has also been extended to A'-movement. I will here use a system adapted from **Radford2004** who assumes that the target category of A'-movement bears a probe consisting of an uninterpretable operator feature (uOp) and an [EPP] feature, while the item undergoing movement has an interpretable operator feature, with values such as [*wh*], [rel(ative)] or [focus]. **Chomsky2007**; **Chomsky2008** assumes that, instead of [EPP]-features, phase heads can optionally have other movement-inducing features, so-called edge features (EFs), which do not depend on a probe-goal relationship. In particular, a phase head can have an EF when it can trigger a movement step that causes some effect, e.g. a necessary intermediate movement step in order for the derivation to converge (cf. **Chomsky2008 Mueller2010deriving**). The idea of EFs has been criticized in the literature, among other reasons because, since optional EFs (or P(eripheral)-features in earlier minimalist work) are held to be a universal property, it is difficult in such a framework to model cross-linguistic variation (cf. **Ceplova2001 Boeckx2007 Boeckx2011** among others). Thus, "[d]ifferent domains count as opaque in different languages; it makes sense to look for features that vary cross-linguistically and that may induce islandhood" (**Boeckx2011**). In the cases to be discussed in the present article, the variation at issue is even intra-linguistic, i.e. within the same language. If the (un)grammaticality of the French cases presented in §1.1 is due to the phase property of DP, as I assume, in a case such as (2b), movement of [$_{PP}$ *sur qui*] to the DP-phase edge would be needed to make the derivation converge, and thus an EF could be freely generated on the D° head. However, the structure is ungrammatical, which calls the EF approach into question. I therefore assume a probe-goal approach for A'-movement as sketched above, in the sense that the D head contains an [EPP]-feature bound to a probe that is sensitive to particular kinds of features.

2 Basic data and state of the art

As I have already mentioned in §1.1, a PP can be extracted from a complement DP in *wh* and relative constructions when the PP is headed by *de*, as is illustrated again in (5) and (6):

(5) a. [PP De qui]   avez-vous vu [DP une photo [PP de qui]] ?
         of whom have-you seen   a   photo   of whom
      'Of whom have you seen a photo __?' (repeated from (2c))

   b. [PP De quel   livre] connais-tu [DP la   fin [PP de quel   livre]] ?
       of which book know-you   the end   of which book
      'Of which book do you know the end __ ?' (cf. **Sportiche1981** 224)

   c. [PP De quel   linguiste] avez-vous rencontré [DP les parents [PP de
       of which linguist   have-you met   the parents   of
       quel   linguiste]] ?
       which linguist
      'Of which linguist have you met the parents __ ?'

(6) a. la   maison [PP dont   / de laquelle] vous avez vu [DP une photo
         the house   of.which / of which   you have seen   a   photo
         [PP dont   / de laquelle]]
             of.which / of which
      'the house of which you have seen a photo __' (**Grosu1974** 312,
      Footnote 3)

   b. un linguiste [PP de qui   / dont]   vous avez rencontré [DP les
       a linguist   of whom / of.which you have met   the
       parents [PP de qui   / dont]]
       parents   of whom / of.which
      'a linguist of whom/of which you have met the parents __'
      (**Tellier1991**)

   However, as has been observed by **Sportiche1981** extraction is barred when the preposition *de* indicates source/origin (also cf. **Tellier1991** 90):

(7) a. * [PP De   quel   pays]   avez-vous rencontré [DP les arrivants [PP
           from which country have-you met   the arrivals
         de   quel   pays]] ?
         from which country
        'From which country have you met the arrivals __'?

    b. * Cette prison, [PP de laquelle] [DP le   transfert [PP de laquelle] de
         this   jail   of which   the transfer   of which   of
         l'   accusé au   tribunal]]]…
         the accused to.the court

         'This jail, from which the transfer __ of the defendant to the court …'
         (**Sportiche1981**)

Taking this together with the observation made in §2.1, according to which PPs headed by prepositions other than *de* cannot be extracted either, **Sportiche1981** arrives at the descriptive generalization in (8) for extractable constituents:

(8)   Provisional descriptive generalization (I)
       "Class 1: genitive PP's [sic] introduced by the preposition 'de'.
       Class 2: PP's introduced by other prepositions (including the one homophonous to 'de' indicating the source).
       […] the second class of PP's is, in general, not wh-extractable. […] However, PP's in the first class sometimes are; PP's in this class introduce either the object of the head noun, its subject or its possessor (if possible)." (**Sportiche1981**)

Note by the way that Sportiche calls the extractable PPs 'genitive PPs', which he further divides into those representing "the object of the head noun, its subject or its possessor", corresponding to the traditional division into objective, subjective and possessive genitives. In the literature published after **Sportiche1981** we observe two tendencies. First, phrases introduced by *de* are considered to be arguments, whereas phrases introduced by other prepositions are taken to be adjuncts, to which those headed by *de* indicating source/origin can also be argued to belong (cf. **Cinque1990 Moritz1994** Alexiadou et al. 2007: 586). Second, the terms subject, object and possessor were substituted for by the theta-roles AGENT, THEME and POSSESSOR (e.g. **Pollock1989 Valois1991 Godard1992**). Crucially, theta-roles were argued to be responsible for determining which constituent can be extracted in the case of multiple PPs headed by *de*:

(9)   a. * La jeune femme [PP dont]   [DP le portrait [PP de Corot] [PP
           the young woman   of.which   the portrait   of C.
           dont]]   se   trouve à la Fondation Barnes …
           of.which REFL finds   at the Foundation Barnes …

           'The young woman, the portrait of whom by Corot __ is located in the Barnes Foundation …'

b. Corot [PP dont]   [DP le portrait [PP dont]   [PP de cette jeune
Corot   by.which   the portrait   of.which   of this young
femme]] se   trouve à la Fondation Barnes …
woman REFL finds   at the Foundation Barnes …
'Corot, by whom the portrait __ of this young woman is located in
the Barnes Foundation …' (examples from **Godard1992** 268–269,
following **Ruwet1972** also cf. **Sag1994**).

(10)   (repeated from (4), from **Milner1978**; **Milner1982** quoted in **Sag1994**)

a. * Le Corbusier [PP dont]   [DP la maison [PP dont]   [PP de M.
Le C.   of.which   the house   of.which   of Mr.
X]] n' est guère confortable] …
X NEG is hardly comfortable
'Le Corbusier, by whom the house __ of Mr. X. is hardly comfortable
…'

b. M. X [PP dont]   [DP la maison [PP de Le Corbusier] [PP
Mr. X   of.which   the house   of Le C.
dont]   n' est guère confortable] …
of.which NEG is hardly comfortable
'Mr. X, whose house of (=by) Le Corbusier __ is hardly comfortable
…'

Example (9) is about a portrait featuring a young lady (THEME) painted by
Corot (AGENT). (9a) vs. (9b) is supposed to show that, when there is an AGENT
and a THEME in the same DP, the AGENT can be extracted and the THEME cannot.
Similar facts seem to apply to (10), where the presence of a POSSESSOR seems to
block the extraction of an AGENT. This was assumed to follow from the following
thematic hierarchy: POSSESSOR > AGENT > THEME (cf. **Pollock1989 Godard1992**).
Let us assume this for now, so that the descriptive generalization in (8) can be
substituted for by the one in (11):

(11)   Provisional descriptive generalization (II):
Argument PPs of nouns can be extracted if they

- are introduced by *de* and
- bear the theta-role AGENT, THEME or POSSESSOR.

If the noun has more than one complement, only the highest in the
hierarchy POSSESSOR > AGENT > THEME can be extracted. Adjunct PPs
cannot be extracted.

However, **Pollock1989** mentions some exceptions, in which the THEME is extractable even when an AGENT is expressed:

(12) a. La symphonie [PP dont]   j' aime [DP l' interprétation [PP de
         the symphony   of.which I love   the interpretation   of
         Karajan] [PP dont]]   …
         K.   of.which

         'The symphony, of which (THEME) I love the interpretation by K.
         __ (AGENT) …'

      b. L' histoire [PP dont]   je n' ai   jamais pu   avoir [DP la
         the story   of.which I NEG have never could have   the
         version [PP de Marie] [PP dont]]   …
         version   of M.   of.which

         'The story, of which (THEME) I could never have Mary's (AGENT)
         version __ …'

      c. Les événements [PP dont]   j' ai   apprécié   [DP le
         the events   of.which I have appreciated   the
         compte rendu [PP du Monde] [PP dont]]…
         report   of L.M.   of.which

         'The events of which (THEME) I appreciated the report by Le Monde
         (AGENT) __ …'

As **Godard1992** observes (for 12c), "the complement *du Monde* is a modifier rather than an argument; it is interpreted as a location, equivalent to the RC 'which appeared in Le Monde'". In a similar vein, **Milner1982** remarks that, in an expression such as *La symphonie de Beethoven de Karajan* (lit. 'The symphony of Beethoven of Karajan'), it is not obvious that *Beethoven* is an authentic AGENT, whereas one might consider *symphonie de Beethoven* as a kind of compound noun, of which *Karajan* would be the only complement.

Such considerations led Kolliakou (1999) to the conclusion that, in all the examples at stake – i.e. such as those in (9), (10), and (12) – there is only one argument PP in the DP.[6] Her basis is Chierchia's (**Chierchia1982**; **Chierchia1985**) distinction between IDPs (*individual-denoting phrases*), i.e. phrases denoting individuals that refer to an entity in discourse, and PDPs (*property-denoting phrases*), i.e. phrases denoting properties that determine a type of entity. When there is more than one PP headed by *de* in a DP, there can only be one IDP, whereas

---

[6]Also cf. **Cinque2014** who arrives at similar conclusions for Italian, cf. Footnote 11.

the other one is necessarily a PDP. Consider the examples in (13) from Kolliakou (1999: 736):

(13) a. En ce   moment, *une attaque de partisans* serait   fatale. (PDP)
          in this moment an   attack   of partisans would.be fatal
          'At this moment a partisan attack would be fatal.'

     b. L' attaque des   partisans *a   commencé à 7 heures.* (IDP)
          the attack   of.the partisans has begun   at 7 o'clock
          'The attack of the partisans began at 7 o'clock.'

     c. L' attaque de(s)   partisans *ce   matin*   n' était pas une attaque
          the attack   of(.the) partisans this morning NEG was   not an   attack
          de partisans.
          of partisans
          'The attack of (the) partisans this morning wasn't a partisan attack.'

Actually, the French expression *une attaque de partisans* can be translated into English either as 'an attack by partisans' or as 'a partisan attack', where, in the latter case, *partisans* cannot be interpreted as an AGENT, but designates a property; thus, a *partisan attack* is an attack that is typical for partisans. As Kolliakou observes, such PDPs are adjuncts, whereas only IDPs can act as arguments. In French, there are no compound expressions of the English type, but the PDP can sometimes be substituted for by a corresponding adjective; e.g. in (12a) *l'interprétation de Karajan* could be paraphrased by *interprétation karajanienne*, a test which shows that *de Karajan* is a PDP. That fact that PDPs behave like postnominal adjectives confirms the idea that such expressions are adjuncts. Importantly, Kolliakou also observes that, in cases without extraction, the PDP is closer to the head noun than the argument (IDP). This is illustrated in (14), from Kolliakou (1999: 714), which also shows the interaction of syntax with extra-linguistic factors, in this case world knowledge:

(14) a. la   maison [PP de Le Corbusier] [PP de Monsieur X]
          the house   of L. C.   of Mr.   X

     b. # la   maison [PP de Monsieur X] [PP de Le Corbusier]
          the house   of Mr.   X   of L. C.
          (cf. Kolliakou 1999: 730)

(14b) is not accepted because, syntactically, *de Monsieur X* is closer to the head noun than *de Le Corbusier*, which means that it must be interpreted as a PDP-adjunct and not as a possessor argument. The unacceptability then results from

the fact that, without a very specific context, there is no such thing as a typical "Mr. X house". Just like some putative agents or possessors, apparent themes can also qualify as PDPs. Thus, the ungrammaticality of (9a) also falls into place if *le portrait de la jeune femme de Corot* is interpreted as something like 'the young woman-portrait of/by Corot'.[7]

On these grounds, let us reject the descriptive generalization in (11) and, instead, adopt (15):

(15) Descriptive generalization (III)

- A noun can select only one PP argument headed by the preposition *de*, usually expressing AGENT, THEME or POSSESSOR. This argument can be extracted in *wh* and relative constructions.
- Other PPs headed by *de* (including those indicating SOURCE and PDPs), as well as PPs headed by other prepositions, are adjuncts. Adjuncts cannot be extracted in *wh* and relative constructions.
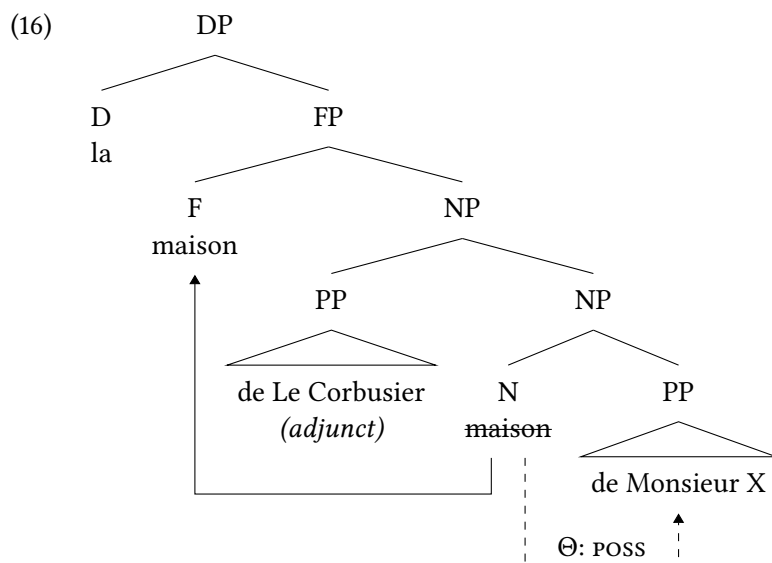
Kolliakou herself uses an HPSG account to derive the structures at issue in this section. Note that her theories about arguments and PDP-adjuncts in the DP can easily be expressed in a minimalist framework. I cannot discuss here the numerous proposals for the internal structure of DPs and the position of post-verbal adjectives in Romance. A quite widespread approach is to assume one or more functional projections between DP and NP (cf. the discussion in **Alexiadou2007Noun**), represented as FP in the simplified version in (16) representing (14a):

---

[7]The status of an expression as either an IDP or a PDP often depends on world knowledge. For further illustration, see Kolliakou's (1999) remarks concerning (i) and (ii):

(i) le portrait [d' Aristote] [de Rembrandt]
     the portrait   of Aristotle   of Rembrandt

(ii) le portrait [de Rembrandt] [d' Aristote]
     the portrait   of Rembrandt   of Aristotle

"[*D*]*'Aristote* in [(i)] is different from *d'Aristote* in [(ii)]: *portrait d'Aristote* in [(i)] can identify a typical portrait representing Aristotle (or even a typical Aristotle portrait depicting someone else); on the other hand, *d'Aristote* in [(ii)] refers to an individual named 'Aristotle', and who in principle can be associated in one out of many ways with the portrait (painter, owner, etc.) – provided we leave aside the historical/'meta-linguistic' information that biases our interpretation" (Kolliakou 1999: 748).

(16)

DP

D
la

FP

F
maison

NP

PP

de Le Corbusier
(adjunct)

NP

N
~~maison~~

PP

de Monsieur X

Θ: POSS

Here, the noun *maison* has one argument, to which the theta-role POSSESSOR is assigned. The other PP, the PDP de *Le Corbusier* is an adjunct, left-adjoined to NP. The head noun is raised to a functional projection (maybe NumP). It follows naturally from this analysis that the PDP adjunct is closer to the head noun, in conformity with what Kolliakou observes.

However, all this does not explain why the adjunct cannot be extracted and how the extraction of the complement can be modeled within the Minimalist Program. I will solve these problems within the account that I will develop in §4, but let us first look at some more recent work in which the DP is considered as a phase.

3 Phase-based approaches

The idea that cyclic movement uses [spec,DP] (or [spec,NP] in former frameworks) as an "escape hatch" can already be found in **Cinque1980** and has been elaborated on, e.g., by **Stowell1989**; **Szabolcsi1983**; **Szabolcsi1994**; **Giorgi1991** and **Gavruseva2000** In more recent work, the DP has been considered to be a phase (cf. e.g. Svenonius 2004; **Chomsky2008 Heck2008**; Heck 2009). For data concerning extractions from DP that are similar to those considered here, originating from Spanish and Italian, respectively, I briefly summarize **Gutiérrez-Bravo2001** and **Cinque2014**

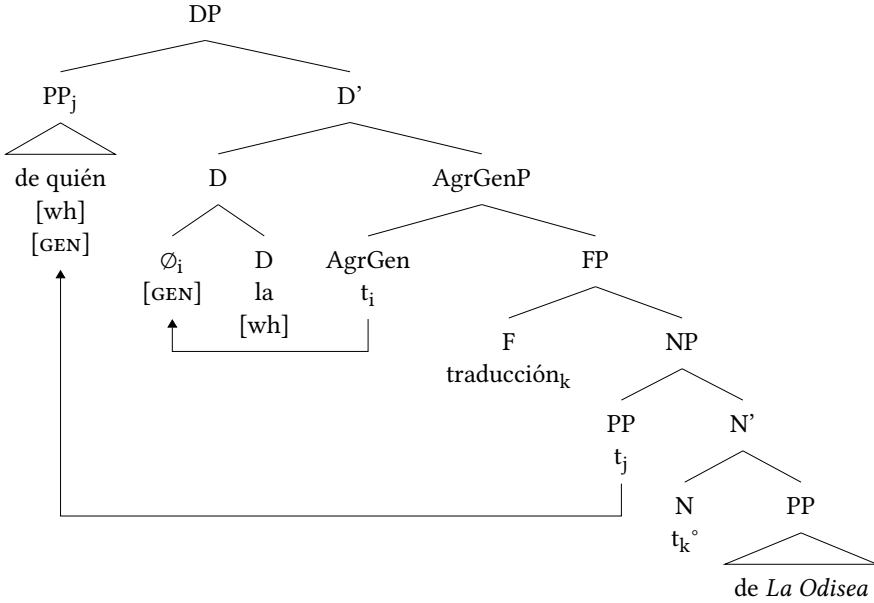*Guido Mensching*

Szabolcsi 1994 is not in the reference list.

Gutiérrez-Bravo2001 is a surprisingly early article on phase theory, which, however, still follows Chomsky (1995) with respect to (strong and weak) features, checking theory, and agreement. The Spanish data that this article aims to explain are similar to the French data in §2:

(17) Spanish (**Gutiérrez-Bravo2001** 111)

    a. [PP De quién] perdiste [DP la traducción [PP de La Odisea] [PP de
         of whom lost.2SG   the translation   of the Odyssey   of
        quién]] ?
        whom
        'Of whom did you lose the translation of The Odyssey __?'

    b. * [De qué] perdiste [DP la traducción [PP de Juan] [PP de qué]]?
          of what lost.2SG   the translation   of J.   of what
        'Of what did you lose Juan's translation __?'

As shown in (18) below, Gutiérrez-Bravo assumes an AgrGen[itive] projection situated lower than D. In order to attract the *wh* constituent to the phase edge, the D head has a strong [*wh*]-feature. The covert AgrGen head has a genitive feature, which is adjoined to D. This feature will then attract the PP that also bears a [GEN]-feature to [Spec,DP] (recall that, in Chomsky's 1995 framework, features are checked via specifier-head agreement). The attracted PP must also bear a [*wh*]-feature, which checks the [*wh*]-feature of D. Within the NP, a PP that encodes the AGENT is merged in [Spec,NP], whereas the PP bearing the THEME theta-role is the complement of N. The ungrammatical case (17b) is then explained by the Minimal Link Condition, which forces the [GEN] feature in D to attract the closest constituent that also bears a [GEN] feature. In (17b), this would be the PP *de Juan*, which does not, however, bear a [*wh*]-feature. For (17a), the derivation would converge in the following way:

(18)

14

```
                              DP
                    ┌─────────┴──────────┐
                  PPⱼ                    D'
                 ╱  ╲           ┌─────────┴──────────┐
            de quién           D                   AgrGenP
             [wh]          ┌───┴───┐          ┌───────┴────────┐
             [GEN]       ∅ᵢ      D         AgrGen            FP
                        [GEN]    la          tᵢ          ┌─────┴─────┐
                                [wh]                     F          NP
                                                    traducciónₖ  ┌───┴───┐
                                                               PP      N'
                                                               tⱼ    ┌──┴──┐
                                                                    N     PP
                                                                   tₖ°
                                                                      de La Odisea
```

Apart from the fact that this account uses an early minimalist framework, it contains some weak points. For example, the adjunction of the [GEN]-feature is not motivated, and questions arise concerning how the second genitive feature (on the N complement in (18)) is checked, and why a PP can bear a case feature in the first place. However, Gutiérrez-Bravo's approach contains an interesting point: the incorporation of the case feature into D creates a complex D head that has both A and A' properties. In other words, the extraction from DP "is conditioned by the possibility of the extracted constituent to check the Case feature of the adjoined functional head" (**Gutiérrez-Bravo2001** 116).

In a similar vein, **Cinque2014** assumes, for parallel Italian data, that "DPs are phases (which forces movement to the highest specifier of DP, before extraction takes place)". He argues that this specifier is an A- (rather than an A'-) position. Cinque furthermore makes use of the notion "subject of DP" (cf. **Cinque1980**), which can be identified, among others, by means of the following test: "the subject is the only argument of the noun which can be expressed by a possessive adjective" (**Cinque2014** 95, Footnote 1).[8]

---

[8]This also applies to French. A second test for Italian is mentioned by Cinque (ibid.): "the subject is the only argument of the noun which cannot be expressed by a 1st and 2nd pers. sing. pronoun preceded by *di*". French is even stricter here, since it includes the third person, too. Thus: *la maison *de moi / *de toi / *de lui / *d'elle / *d'eux*. I will not examine this property here, but agree with **Cinque2014**'s (**Cinque2014**) idea, which roughly amounts to saying that these

His derivation of a DP containing a "subject" is very complex and can only be sketched here. It starts off as shown in (19) (representing the DP *l'opinione di Gianni* ('Gianni's opinion', lit. 'the opinion of Gianni'), where the "subject" moves from its "thematic (Merge) position to a licensing position (Spec AgrSP or NominativeP [...]" (2014: 92):
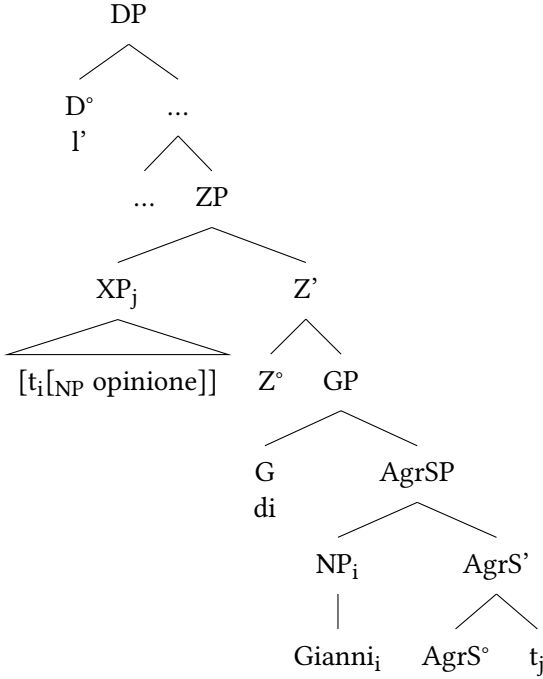
(19)
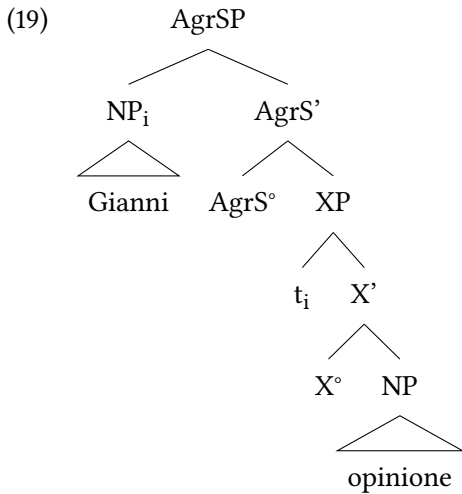
The rest of the derivation yields the structure sketched in (20).[9] A GP (genitive phrase) headed by the element *di* is merged above AgrSP, whereas the XP remnant containing the head noun is moved to a higher specifier (cf. **Kayne1999**; **Kayne2004** among others).

---

pronouns are incompatible with the genitive case because their forms are fixed for oblique case.

[9] The three dots represent the "criterial subject position" of the DP (SubjP; cf. **Rizzi2007Properties Rizzi2007Strategies**), which remains empty (containing *pro*) in the case at issue and is irrelevant for our discussion.

(20)

```
                        DP
                     /      \
                  D°         ...
                  l'         /  \
                          ...    ZP
                                /    \
                            XP_j      Z'
                           /    \     / \
                 [t_i[_NP opinione]]  Z°  GP
                                      / \
                                     G   AgrSP
                                     di  /     \
                                      NP_i      AgrS'
                                       |        /   \
                                   Gianni_i  AgrS°   t_j
```

It is precisely the "subject" of a DP that can be extracted, for example if we use the *wh* element *chi* 'who' instead of *Gianni* in (19) and (20); technically, the whole GP must be extracted in this case. **Cinque2014** explains the impossibility of extracting other arguments when the "subject" position is filled (cf. our French cases in §2) in terms of relativized minimality (**Rizzi1990**; **Rizzi2001**; **Rizzi2004**): the external specifier of DP is an A-position in Italian and other Romance languages, essentially because "if it were an A'-position, we would expect any argument or adjunct to be able to move into it" (2014: 91).[10] Although this is not very clear in the article, what is meant here is that a non-"subject" argument would have to move out of the NP in the situation in (19), thus crossing the subject in Spec-AgrSP, an A-position. Since the ultimate goal of the constituent is [spec,DP], which is an A-position, too, this movement is barred by relativized minimality.

Note that Cinque's idea concerning the A-status of [spec,DP] is similar to Gutiérrez-Bravo's assumption. Although Gutiérrez-Bravo assumes that [spec,DP] has a mixed A and A' status, the primary trigger of movement is the case feature,

---

[10]For further evidence with respect to the properties of [spec,DP] as an A-position, see **Cinque2014**

while the operator feature (e.g. [*wh*]) is checked as a "free rider". With respect to the issue of why a PP can have case, the advantage of Cinque's approach is that the relevant types of N arguments are not PPs but DPs, and the element *di* or French *de* is a genitive head.[11] Within the Minimalist Program, it remains to be seen, however, how the A or A' status of a projection should be encoded, an issue to which I will return in §4.

Cinque's article contains some other interesting aspects, e.g. his criticism of those explanations that involve a thematic hierarchy (cf. §2):

> [...] this is true only in as much as thematic roles enter into the determination of what eventually counts as the syntactic subject. When divorced from the notion of subject the thematic hierarchy fails to predict what can be extracted and what cannot. Not all Agents/Experiencers can extract in the absence of Possessors (e.g. those introduced by a *by* phrase). Not all Themes can extract in the absence of Agents/Experiencers and Possessors (for example the Theme of Ns like *desiderio* 'desire', etc. – cf. **Cinque1980**64, **Longobardi1991**66, and Kolliakou 1999, §2.3). Ultimately, only what qualifies by the two diagnostics above as the *syntactic* subject of the DP can extract. (**Cinque2014** 95–96, Footnote 1)

Note, however, that Cinque's argumentation pushes the question back one step, because what is going to be realizable as a subject of DP may still depend on some kind of hierarchy.[12]

Summarizing, both **Gutiérrez-Bravo2001** and **Cinque2014** consider DPs to be phases.[13] Thus, a constituent can only be extracted from the DP if it first moves to its (external) specifier. Both accounts agree on the fact that this movement

---

[11]Note by the way that Cinque arrives at conclusions very similar to those of Kolliakou (1999) sketched in §2: "The ungrammaticality (or marginal status) of two *di*-phrases with derived nominals based on transitive verbs (*[*la distruzione* [*del ponte*] [*dei nemici*]] 'the destruction of the bridge of the enemies'/[*la distruzione* [*dei nemici*] [*del ponte*]] 'the destruction of the enemies of the bridge', as opposed to [*la distruzione* [*del ponte*] [*da parte dei nemici*]] 'the destruction of the bridge by the enemies') [...] may suggest that, in the Italian DP, only one *di* is available to license genitive Case [...]. Where two *di* appear to be (marginally) possible ([*l'organizzazione* [*della mostra*] [*di Gianni*]] 'the organization of the exhibition of G.'), the subject *di Gianni* might in fact be a reduced relative clause ([*l'organizzazione* [*della mostra*] [(*che era*) *di Gianni*]] 'the organization of the exhibition which was by Gianni'." For French, similar speaker judgments apply; i.e. *Le portrait d'Aristote de Rembrandt* is more marginal than *Le portrait d'Aristote par Rembrandt.*

[12]Thanks to an anonymous reviewer for pointing this out.

[13]For further arguments for the status of DP as a phase in connection with *pied-piping* in French, see **Heck2008**
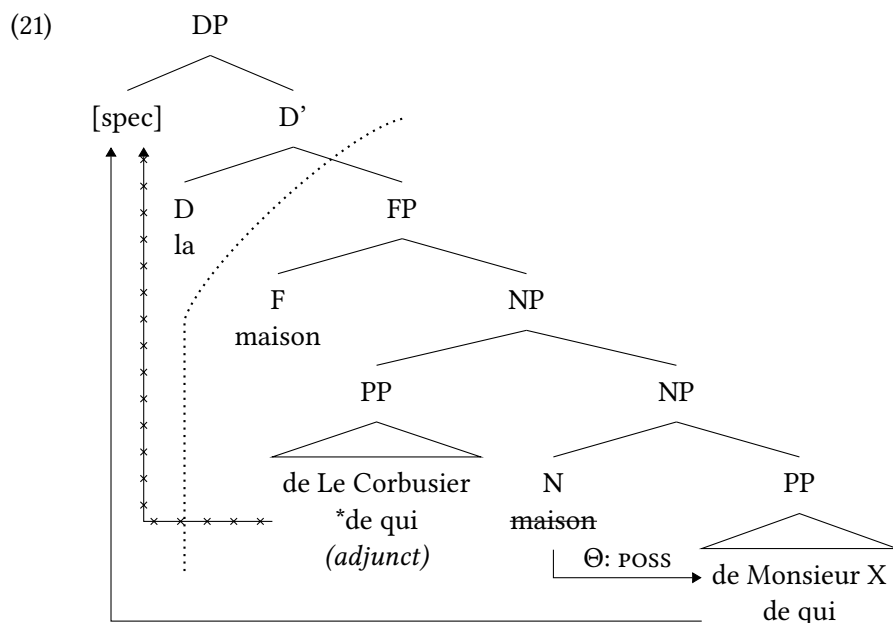
step has properties of A-movement, related to case properties (the extracted constituent bears genitive case). We can thus observe a kind of circle in the discussion of Romance extraction phenomena: while at the beginning of the 1980s the constituents extracted from the DP were considered to be genitives, the discussion in the course of the 1980s and 1990s turned on theta-roles rather than case, an initiative with doubtful success. More modern (minimalist) approaches based on phase theory have returned to considering the relevant constituents (headed by elements such as French *de* or Italian *di*) as exponents of genitive case. This will be important to keep in mind for what follows.

4 A phase- and probe-based Minimalist analysis

4.1 Basic outline

In this section, I develop a phase-based account that is in conformity with the minimalist probe-and-goal framework (Chomsky 2000 et seq.). As we will see, some of the insights of the previous solutions sketched in §3 independently follow from the application of this framework. Let us begin with the illustration in (21) based on (16):

(21)

```
                        DP
              _____
          [spec]            D'
                      _____
                      D          FP
                      la     _____
                          F            NP
                       maison    _____
                             PP           NP
                        _____    _____
                     de Le Corbusier  N       PP
                        *de qui     maison   _____
                        (adjunct)        de Monsieur X
                                Θ: POSS    de qui
```

The dotted curved line represents the phase boundary; i.e. the part lower than

the D head is not accessible for further computation. The element that we want to extract must be raised to [spec,DP] as indicated by the arrows. The problem is now why the extraction of the adjunct is barred while that of the complement is not, even though the adjunct is closer to the D head.[14]

As mentioned in §1.2, and as became obvious, as I hope, in §2–3, we cannot just assume an optional edge feature (EF) on D, which could just attract any constituent needed for further computation – in (21), either the *wh*-marked complement or the *wh*-marked adjunct. If we cannot use an EF, we need to assume an [EPP]-feature that is connected to a probe. One necessary condition for the probe (following the framework adopted in §1.2) is that it contains an unvalued operator feature (uOp). Let us provisionally assume (22), a probe that is is sensitive to interrogative, relative and focalized elements, which I argue bears [vOp] (see §1.2 above),[15] thus licensing the structures in (23):[16]

(22)   Features of D (provisional formalization I)

   [uOp] with uOp ≜ Op = X, X ∈ {*wh*, rel, Focus}

   |

   [EPP]

(23)   a. [$_{PP}$ De qui]   as-tu   vu   [$_{DP}$ [$_{PP}$ de qui]   [$_{DP}$ la photo [$_{PP}$ de
           of whom have-you seen   of whom   the photo   of
        qui]]   ?
        whom

        'Of whom have you seen the photo __ ?'

---

[14]Note that this problem could easily be resolved by assuming the right-ascending theory of adjuncts (see, e.g., **Andrews1983**) together with relativized minimality. In this article, I prefer to follow **Kayne1994**'s (**Kayne1994**) antisymmetric approach, according to which adjuncts always left-adjoin. In addition, the problem persists independently of the approach chosen, because adjuncts cannot be extracted even if there is no argument in the structure (see below). In **Cinque2014**'s (**Cinque2014**) framework, this would follow because [spec,DP] is an A-position, but note that, according to the Minimalist Program as assumed here, the notion "A-position" is not a primitive of syntax and must be expressed through features, as will be done in what follows. As for relativized minimality, note that it is not easily compatible with a minimalist, derivational approach; see **Boeckx2008**; **Boeckx2009** for discussion.

[15]In addition, the extractable item must have another unvalued feature uF (not corresponding to the case feature discussed in §4.2), which is valued by the probe of the final landing site. Thus, for the cases at issue, C° will have a probe that not only contains [uOp] but is also able to value [uF] on D. This is to ensure that the *wh* or relative phrase cannot remain in any of the intermediate positions ([spec,DP] or [spec,vP]), which would lead to ungrammaticality. I will not investigate the nature of this feature in the present article.

[16]Movement to the phase edge of v is not represented in these simplified structures.

b. le   prof   [PP dont]   j' ai   vu   [DP [PP dont]   [DP la
   the professor   of.which I have seen   of.which   the
   photo [PP dont]]
   photo   of.which

'the professor of whom I have seen the photo __'

c. (C'est) [PP DE JEAN] (que) j' ai   vu   [DP [PP de Jean] la   photo [PP
   it.is   of Jean   that I have seen   of J.   the photo
   de Jean]].[17]
   of J.

'It is JEAN that I have seen the photo of __.'

However, the provisional formalization in (22) clearly overgenerates: a D head with this feature composition could also attract the adjunct *de qui* in the upper PP in (21) so as to yield the ungrammatical (24a) vs. the grammatical (24b). In fact, according to the descriptive generalization in (15), adjuncts can never be attracted, witness the PP indicating SOURCE in (23c) and an adjunct with another preposition as in (24d):

(24)   a. * [PP De qui]   as-tu   vu   [DP [PP de qui]   [DP la   maison [PP
               of whom have-you seen   of whom   the house
          de qui]   [PP de M. X]]] ?
          of whom   of Mr. X

          'Of whom have you seen the house __ of Mr. X?'

       b.   [PP De qui]   as-tu   vu   [DP [PP de qui]   [DP la   maison [PP
               of whom have-you seen   of whom   the house
          de Le Corbusier] [PP de qui]]]?
          of Le C.   of whom

          'Of whom have you seen the house of Le Corbusier __?'

       c. * [PP D'   où]   aimes-tu [DP [PP d'   où]   [DP les bananes [PP
               from where like-you   from where   the bananas
          d'   où]]] ?
          from where

          'From where do you like the bananas __?'

---

[17]The Standard French focusing strategy is to use a cleft sentence. The focus-fronting option indicated by the brackets is available in other varieties of French.

d. * [_PP_ sur qui]   as-tu   lu   [_DP_ [_PP_ sur qui]   [_DP_ un livre [_PP_ sur
    on whom have-you read   on whom   a book   on
qui]]] ?
whom
'On whom have you read a book __'?

For this reason, the feature set in (22) is not enough. Since we are looking
for features that can act as a probe for detecting only arguments, an obvious
solution is phi-features. Recall that, according to Chomsky (2000), subjects of
sentences are the goals of a phi-probe in T, whereas direct objects are the goals
of a phi-probe in v. If we can generalize from this, arguments are typically the
goals of a phi probe. Let us therefore modify (22) by assuming that the D head
has a complex probe consisting of the unvalued operator features plus unvalued
phi-features. The refined version of (22) is given in (25):

(25)   Features of D (provisional formalization II)

[uOp] with uOp $\triangleq$ Op = X, X $\in$ {*wh*, rel, Focus}

[uφ] with uφ $\triangleq$ person = X, number = Y, gender = Z
  |
EPP

Although this cannot be the final version, as we will see in §4.2–4.3, this for-
malization has the advantage of coinciding with **Gutiérrez-Bravo2001**'s (**Gutiérrez-Bravo2001**
hypothesis that [spec,DP] is a hybrid A/A'-position. This is so because the [EPP]-
feature is linked to a complex probe that contains an operator feature (held re-
sponsible for A'-movement) and phi-features (related to A-movement).[18]

4.2 The argumental status of extractable PPs and the case problem

Unfortunately (25) does not yet bring the desired result, as, in (24a), the adjunct
de qui must be also argued to contain phi-features. An even clearer example is
the relative pronoun *lequel*, which is inflected for gender and number, but is still
ungrammatical when it forms part of an adjunct PP extracted from a DP, while
it is grammatical if it is part of an argumental PP. In order to further refine the

---

[18]Note that the lexical entry of a D head in (25), as well as the further elaboration in what follows
(in particular on genitives with *de*), is language-specific. Hence, other languages may show a
behavior different from French. See, e.g., English *Who have you seen a picture of* or even *?What
did you read books about?*

formalization in (25), some more considerations, in particular concerning the status of the preposition *de*, are in order, along the following lines: crucially for my analysis, in the case of subjects and direct objects, it is the unvalued case feature that makes the goal visible to the probe (Chomsky 2000: 123).[19] This leads me to assume that those expressions in French containing the element *de* that can be extracted from a DP are themselves DPs (containing an unvalued case feature), and not PPs, so the element *de* is not a preposition but a kind of genitive case marker. Note that the idea that the expressions under discussion here are genitives coincides with the conclusions reached by **Gutiérrez-Bravo2001** and **Cinque2014** for independent reasons and in other frameworks (see §3), but it has now naturally fallen out of our attempt to apply a minimalist approach of the kind in Chomsky (2000 et seq.).

To treat arguments of N that contain *de* or analogous elements in other Romance languages (such as Italian *di*) as genitives is an old idea formulated as early as **Benveniste1966** and later implemented in various ways in generative grammar. We have already seen one possibility in §3, the G[enitive]P assumed by **Cinque2014** This is not, however, appropriate in the framework adopted here, in which case features are valued later by a higher probe. A more neutral label is K[ase]P (cf. Bittner & Hale 1996; **Neeleman1999** among many others), although such a label should in fact be avoided, as it does not have semantic content (cf. Chomsky 1995). In my view, it would be preferable to assume that the element *de* is inserted post-syntactically, just like synthetic case morphology. I cannot discuss this any further here and remain rather theory-neutral with respect to the status of Romance analytical genitives. I provisionally use the term KP, following **Biggs2014** in that KP is "primarily employed as a placeholder for (late) morpho-phonological insertion." I will not be concerned with the internal structure of KPs, on which various views exist, so I will label the whole expression as KP.

Let us then assume that arguments of N that represent AGENT, THEME or POSSESSOR are KPs,[20] where KP has valued phi-features plus an unvalued case feature. I furthermore assume that the D-head assigns genitive case under Agree (cf. **Radford2004** 368–369; **Rappaport2006** among others), which I formalize with a valued case feature on D.[21] For a case without extraction, such as *le livre de Jean*,

---

[19]As an anonymous reviewer points out, late-adjunction approaches would also predict that adjuncts cannot be found by the probe, because when Agree takes place the adjunct is simply not yet present.

[20]To these we may possibly add "partitive" complements of nouns designating a quantity (such as *moitié* 'half', *plupart* 'majority', *litre* 'liter', *kilo* 'kilo' etc.), cf. **Godard1992 Doetjes1997**

[21]Since the whole DP itself has a case feature that is valued by a higher functional head, this is

lit. 'the book of Jean', this can be illustrated as follows:

(26)
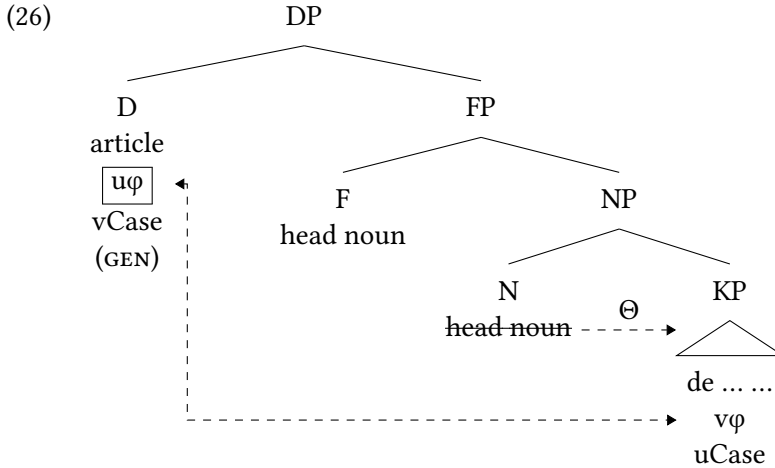
The unvalued phi-features of D act as a probe and find the valued phi-features of the KP, triggering Agree and valuing the KP's [uCase] as [Gen], which is spelled out as *de* on the K head. Intervening adjuncts do not have an unvalued case feature and will not be seen by the probe. The D head has no intrinsic [EPP]-feature in French, so the KP is not attracted to [spec,DP] in (25). A determiner with this feature composition is thus not apt for our extraction cases, which is the desired result, since only a subset of KPs, namely those containing an additional valued operator feature, can be extracted (recall my provisional formalization in (25)). Thus, if something needs to be extracted (ultimately because C has an unvalued operator feature), the determiner must be merged with the special feature composition shown in the (still provisional) formalization in (27) (revised from (25)):

(27)   Features of D (provisional formalization II)

[uOp]

[uφ]

vCase (Gen)

|

EPP

---

a complex issue (cf. **Weisser2012**). Also see Footnote 21.

Although this feature composition for the D head responsible for extraction makes the right predictions, it is still incomplete. The reason is that the head noun also has phi-features, and possibly even an unvalued case feature, which must be valued by a head outside the DP (e.g. with [Nom] or [Acc]). This problem will be addressed immediately below in §4.3.

4.3 The feature composition of French determiners

Thus far in §4, I have been concerned with determining the features that must be assumed for the D head in its functions as a genitive assigner and as a phase head that can permit, in some special cases, the extraction of DP-internal material to its specifier in order to license further extraction. But, of course, the D head has another, more obvious property, namely agreement with the head noun. Thus, crucially, in an expression like *la maison de Pierre* (the-f.sg. house-f.sg. of Pierre-m.sg.) the determiner (*la*) agrees in gender with the head noun *maison* and not with the KP *de Pierre*. This seems to put the probe approach that I have just developed into serious doubt. The solution that I will adopt is that French determiners actually have two phi-sets corresponding to two probes. Thus, French articles have the following basic feature composition:

(28) $\left(\begin{array}{l} [\text{u}\varphi_1] \\ [\text{u}\varphi_2] \\ [\text{vCase}] \ (\text{Gen}) \end{array} \right)$

This is an instance of multiple probes (cf. **Chomsky2008**), and, more particularly, of feature-stacking (see **Manetta2011** Chapter 2 for discussion and literature). In our case, this means that the two probes are ordered, with $[\text{u}\varphi_1]$ having to probe first (finding the head noun as its goal) and $[\text{u}\varphi_2]$ second (finding the KP). The bracket around the second probe indicates that it is optional (i.e. it must enter the derivation only if a KP with an unvalued case feature is present). The fact that multiple phi-sets can exist on D-heads can be seen in French possessives, as shown in (29):

(29) son   livre   ma veste   tes   livres,   …
     his/her.M book.M my.F jacket.F your.SG-PL books.PL

The morphemes {s-}, {m-}, {t-} represent the phi-features (3$^{\text{rd}}$ sg., 1st sg., 2nd sg.) of the possessor, whereas the morphemes {-on}, {-a}, {-es} reflect those of the head noun. I actually assume that the complex possessive forms in (29) are the spell-out of D heads with a very similar feature composition to that in (28). Let us

assume that the expressions in (29) are DPs that contain a phonologically empty KP (something like a covert pronominal). Since articles combine with referring expressions whereas pronominals do not, the difference between articles and possessives can be modeled by a further feature that I provisionally identify as [+/- ref(erential)]:[22]

(30)   a. articles[23]
          [D]
          [uφ_1]

$$\left(\begin{array}{l} [\text{u}\varphi_2] \\ [\text{vCase}] \text{ (Gen)} \\ [\text{+REF}] \end{array} \right)$$

      b. possessives
          [D]
          [uφ_1]
          [uφ_2]
          [vCase] (Gen)
          [−REF]

We can now return to the problem of extraction and proceed to the final revision of the formalization initiated in (22) and further refined in (25) and (27): the D head needed for the extraction cases at issue here is a variant of (30a), enriched with the [uOp] feature and the [EPP]-feature connected to it (cf. (27) above). We can integrate this as a further optional part of (29a) so as to yield (31):

(31)   Features of D (articles; final formalization)
          [D]
          [uφ_1]
          [uφ_2]
          [vCase] (GEN)
          [+REF]

$$\left(\left(\begin{array}{c} [\text{uOp}] \\ | \\ [\text{EPP}] \end{array} \right) \right)$$

---

[22]I do not address the issue of external case assignment to the DP. As an anonymous reviewer points out, D heads also need [uCase], which is valued by a probe from outside the DP (e.g. the probe contained in v), and then probably passed to the N head (concord).

[23]And, possibly, demonstratives.

This complex entry reads as follows: minimally, a French article (or a demonstrative) has one unvalued phi-set which probes the head noun and determines the morphology of the determiner. Optionally, there can be an additional second probe with a (genitive-)case-assigning property. This option is needed when the head noun has a KP complement and can be enriched by an unvalued operator feature connected to an [EPP]-feature if the KP needs to be extracted.

5 Conclusions

In this article, I have focused on the extraction of PPs from DPs (in *wh*, relative and focus contexts), which is sometimes permitted but at other times leads to ungrammaticality. The main aim of this article has been to determine the conditions that allow/disallow extraction, on which there has been controversy in the literature, and to develop a phase-based account within Chomsky's (2000 et seq.) probe-and-goal framework. I have concentrated on French, although the data are similar in other Romance languages.

On a purely descriptive level, it appears that a subset of PPs headed by the preposition *de*, in which the PP represents an AGENT, THEME or POSSESSOR, is extractable. Other instances of [PP *de* ...] (e.g. PPs indicating source/origin or – following Kolliakou 1999 – PPs that are property-denoting expressions and have a similar function to adjectives), as well as PPs with prepositions other than *de*, cannot be extracted from the DP, thus yielding a kind of "island effect". Still at a descriptive level, this can be generalized by assuming that only PPs with *de* that represent an AGENT, THEME or POSSESSOR are complements, while all other PPs are adjuncts, and that adjuncts are not extractable from DPs. A major issue that is discussed in the literature is the presence, in a single structure, of two or more PPs that fit the relevant extraction criteria. I have followed Kolliakou's (1999) argument that, in such cases, only one of them can be an argument, whereas the others are adjuncts (property-denoting expressions).

The relevant subset of PPs introduced by *de* has sometimes been informally classified as "genitives" in the literature, but in the 1980s and 1990s, the discussion mostly turned on theta-roles, trying to predict the extraction of PPs from DPs in terms of a thematic hierarchy. By contrast, two minimalist accounts that I have summarized in §3 (**Gutiérrez-Bravo2001 Cinque2014**) assume that extractable PPs headed by *de* or equivalent prepositions in other Romance languages represent genitive case in the technical sense. However, these accounts assume agreement phrases, which are not compatible with more recent minimalist literature. Both accounts are nevertheless formulated within phase theory, an idea that log-

ically continues the view formulated by **Cinque1980** according to which extraction from DP (NP in **Cinque1980**) to a higher category (usually CP) necessarily passes through [spec, DP] (formerly [spec,NP]).

In §4, I applied Chomsky's probe-goal approach in order to explain extraction of a PP to the DP phase edge. Essentially, what we need to assume is that D° can have an unvalued operator feature ([uOp]) bound to an [EPP]-feature. The operator feature alone however does not qualify as a probe capable of explaining the data, since it would match any constituent containing [vOp], crucially including adjuncts. There must thus be an additional feature on the goal that guarantees the visibility of arguments (but not of adjuncts) to the probe. Following the logic of the probe-goal approach, this should be an unvalued case feature, a solution that lends further support to the genitive hypothesis. Since case belongs to the agreement system, the data must be explained by a complex probe on the D head, which contains unvalued phi-features in addition to [uOp]. I then argued that Romance articles can optionally have this complex probe, in addition to their "regular" unvalued phi-set (which regulates agreement between the article and the head noun). Thus, if something needs to be extracted from a DP, the D head has two phi-sets. Note that the extracted constituent must be classified as a DP or a KP rather than a PP.

French possessives, another type of determiner, can also be argued to have two phi-sets (in this case both are morphologically visible). This is encoded in the lexical entries of possessives, which do not have [uOp] and lack an [EPP]-feature. Interestingly, the fact that possessives and articles compete for the D° position then explains the incompatibility of extraction with the presence of possessives, which has been observed in the literature (cf. **Milner1978**; **Milner1982** quoted in **Sag1994**):

(32) a. la neuvième, dont j' ai beaucoup aimé l' interprétation
the ninth of.which I have much loved the interpretation
de Karajan
by K.
'the Ninth (symphony), of which I have much loved the interpretation by K'

b. * la neuvième, dont j' ai beaucoup aimé son interprétation
the ninth of.which I have much loved his interpretation
'the Ninth (symphony), of which I have much loved his interpretation'

The theory sketched here also explains complex DP islands. In an example such

as (1a), the special complex probe in the D head needs to identify a constituent with an unvalued case feature as its goal in order to attract it to the DP phase edge. However, the case feature of the putative goal, *qui* in the relative clause, is already valued as accusative in the relative clause.

A final note concerns the assumption that constituents introduced by prepositions other than *de* are adjuncts, which is assumed in most of the literature and which I have adopted as a working hypothesis during the whole article. My final approach makes this assumption unnecessary, since such constituents would be PPs and not KPs.

On a more general theoretical level, the study of the phenomena at issue here shows that not all intermediate movement steps can be explained by **Chomsky2008**'s (**Chomsky2008**) edge features (EFs). EFs are designed to optionally apply whenever needed, but they are not capable of selecting specific goals. Whereas we can assume an EF on v for ensuring cyclic movement from the DP edge to the CP, we cannot do so for the movement to the DP edge itself.

Acknowledgements

References

Abels, Klaus. 2003. *Successive cyclicity, anti-locality, and adposition stranding*. Storrs, CT: University of Connecticut dissertation.

Abels, Klaus. 2012. *Phases: An essay on cyclicity in syntax*. Berlin: De Gruyter.

Ackema, Peter & Ad Neeleman. 2018. *Features of person: From the inventory of persons to their morphological realization*. Cambridge, MA: MIT Press.

Anagnostopoulou, Elena. 2003. *The syntax of ditransitives: Evidence from clitics*. Berlin: Mouton de Gruyter.

Anand, Pranav & Andrew Nevins. 2006. The locus of ergative case assignment: Evidence from scope. In Alana Johns, Diane Massam & Juvenal Ndayiragije (eds.), *Ergativity: Emerging issues*, 3–25. Dordrecht: Springer.

Asarina, Alevtina. 2011. *Case in Uyghur and beyond*. Cambridge, MA: MIT dissertation.

Bader, Marcus & Josef Bayer. 2006. *Case and linking in language comprehension: Evidence from German.* Dordrecht: Springer.

Baker, Mark. 2015. *Case: Its principles and its parameters.* Cambridge: Cambridge University Press.

Baker, Mark & Nadya Vinokurova. 2010. Two modalities of case assignment in Sakha. *Natural Language & Linguistic Theory* 28. 593–642.

Bhatt, Rajesh & Martin Walkow. 2013. Locating agreement in grammar: An argument from agreement in conjunctions. *Natural Language & Linguistic Theory* 31. 951–1013.

Bittner, Maria & Kenneth Hale. 1996. The structural determination of case and agreement. *Linguistic Inquiry* 27. 1–68.

Blake, Barry. 2001. *Case.* Cambridge: Cambridge University Press.

Bobaljik, Jonathan. 2012. *Universals in comparative morphology.* Cambridge, MA: MIT Press.

Bobaljik, Jonathan D. 2008. Where's phi? agreement as a post-syntactic operation. In Daniel Harbour, David Adger & Susana Béjar (eds.), *Phi-theory: phi-features across interfaces and modules*, 295–328. Oxford: Oxford University Press.

Bobaljik, Jonathan D. & Susi Wurmbrand. 2008. Case in GB/Minimalism. In Andrej Malchukov & Andrew Spencer (eds.), *The Oxford handbook of case*, 44–58. Oxford: Oxford University Press.

Bošković, Željko. 2005. On the locality of left branch extraction and the structure of NP. *Studia Linguistica* 59. 1–45.

Brody, Michael. 1997. Perfect chains. In Liliane Haegeman (ed.), *Elements of grammar: Handbook of generative syntax*, 139–167. Dordrecht: Kluwer.

Burzio, Luigi. 1986. *Italian syntax: A government-binding approach.* Dordrecht: Reidel.

Caha, Pavel. 2009. *The nanosyntax of case.* Tromsø: CASTL dissertation.

Calabrese, Andrea. 2008. On absolute and contextual syncretism. In Andrew Nevins & Asaf Bachrach (eds.), *The bases of inflectional identity*, 156–205. Oxford: Oxford University Press.

Carstens, Vicki. 2001. Multiple agreement and case deletion: Against phi-(in)completeness. *Syntax* 4. 147–163.

Chierchia, Gennaro. 1995. Individual-level predicates as inherent generics. In Greg N. Carlson & Francis Jeffry Pelletier (eds.), *The generic book*, 176–223. Chicago/London: University of Chicago Press.

Chomsky, Noam. 1980. On binding. *Linguistic Inquiry* 11. 1–46.

Chomsky, Noam. 1981. *Lectures on government and binding. The Pisa lectures.* Dordrecht: Foris.

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.

Chomsky, Noam. 2000. Minimalist inquiries: The framework. In Roger Martin, David Michaels & Juan Uriagereka (eds.), *Step by step: Essays on Minimalist syntax in honor of Howard Lasnik*, 89–155. Cambridge, MA: MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In Michael Kenstowicz (ed.), *Ken Hale: A life in language*, 1–52. Cambridge, MA: MIT Press.

Citko, Barbara. 2005. On the nature of Merge: External Merge, Internal Merge, and Parallel Merge. *Linguistic Inquiry* 36. 475–496.

Cornilescu, Alexandra. 1998. Remarks on the syntax and the interpretation of Romanian middle passive se sentences. *Revue roumaine de linguistique* 43. 317–342.

Croft, William. 1990. *Typology and universals*. Cambridge: Cambridge University Press.

Cuervo, María Cristina. 2003. *Datives at large*. Cambridge, MA: MIT dissertation.

Cyrino, Sonia. 2010. On Romance syntactic complex predicates: Why Brazilian Portuguese is different. *Estudos da Língua(gem)* 8. 187–222.

Embick, David & Rolf Noyer. 2006. Distributed Morphology and the syntax-morphology interface. In Charles Reiss & Gillian Ramchand (eds.), *The Oxford handbook of linguistic interfaces*, 289–324. Oxford: Oxford University Press.

Floripi, Simone & Jairo Nunes. 2009. Movement and resumption in null possessor constructions in Brazilian Portuguese. In Jairo Nunes (ed.), *Minimalist essays on Brazilian Portuguese syntax*, 51–68. Amsterdam: John Benjamins.

Franco, Ludovico & M. Rita Manzini. 2017. Instrumental prepositions and case: Contexts of occurrence and alternations with datives. *Glossa* 2. 1–37.

Gilligan, Gary. 1987. *A cross-linguistic approach to the pro-drop parameter*. Los Angeles, CA: University of Southern California dissertation.

Halle, Morris & Alec Marantz. 1993. Distributed morphology and the pieces of inflection. In Kenneth Hale & Samuel Jay Keyser (eds.), *The view from Building 20*, 111–176. Cambridge, MA: MIT Press.

Harley, Heidi. 1995. Abstracting away from abstract case. In Jill N. Beckman (ed.), *Proceedings of NELS 25*, 207–221. Amherst, MA: GLSA.

Heck, Fabian. 2009. On certain properties of pied-piping. *Linguistic Inquiry* 40. 75–111.

Hein, Johannes & Andrew Murphy. 2016. *Case matching and syncretism in ATB dependencies*. (Leipzig: Universität Leipzig.)

Hicks, Glyn. 2009. *The derivation of anaphoric relations*. Amsterdam: John Benjamins.

Higginbotham, James. 1985. On semantics. *Linguistic Inquiry* 16. 547–621.

Horn, George M. 1983. *Lexical-functional grammar*. Berlin: Mouton de Gruyter.

Hornstein, Norbert. 1999. Movement and control. *Linguistic Inquiry* 30. 69–96.

Hornstein, Norbert & Maria Polinsky (eds.). 2010. *Movement theory of control*. Amsterdam: John Benjamins.

Hornstein, Norbert & Amy Weinberg. 1981. Case theory and preposition stranding. *Linguistic Inquiry* 12. 55–91.

Kolliakou, Dimitra. 1999. De-phrase extractability and individual/property denotation. *Natural Language & Linguistic Theory* 17. 713–781.

Kratzer, Angelika. 1996. Severing the external argument from the verb. In Johan Rooryck & Laurie Zaring (eds.), *Phrase structure and the lexicon*, 109–137. Dordrecht: Kluwer.

Landau, Idan. 2000. *Elements of control: Structure and meaning in infinitival constructions*. Dordrecht: Kluwer.

Landau, Idan. 2013. *Control in generative grammar: A research companion*. Cambridge: Cambridge University Press.

Law, Paul. 2006. Preposition stranding. In Martin Everaert & Henk van Riemsdijk (eds.), *The Blackwell companion to syntax*, 631–684. Oxford: Blackwell.

Łęska, Paulina. 2016. Agreement under case matching in Polish *co* and *który* relative clauses headed by numerically quantified nouns. *Journal of Slavic Linguistics* 24. 113–136.

López, Luis. 2012. *Indefinite objects: Differential object marking, scrambling and choice functions*. Cambridge, MA: MIT Press.

Manzini, M. Rita & Ludovico Franco. 2016. Goal and DOM datives. *Natural Language & Linguistic Theory* 34. 197–240.

Manzini, M. Rita & Leonardo M. Savoia. 2011a. *Grammatical categories*. Cambridge: Cambridge University Press.

Manzini, M. Rita & Leonardo M Savoia. 2003. The nature of complementizers. *Rivista di Grammatica Generativa* 28. 87–110.

Manzini, M. Rita & Leonardo M. Savoia. 2007. *A unification of morphology and syntax: Studies in Romance and Albanian varieties*. London: Routledge.

Marantz, Alec. 1991. *Case and licensing*. (Paper presented at the 8th Eastern States Conference on Linguistics, University of Maryland, Baltimore.)

Marchis Moreno, Mihaela. 2015. Relational adjectives at the interfaces. *Studia Linguistica* 69. 304–332.

Marchis Moreno, Mihaela. 2018. *Relational adjectives in Romance and English: Mismatches at interfaces*. Cambridge: Cambridge University Press.

Marchis Moreno, Mihaela & Ludovico Franco. 2017. Case opacity and cliticization: On intervention and the triggers of different agreement patterns. *Linguística* 12. 99–127.

McFadden, Thomas. 2004. *The position of morphological case in the derivation: A study on the syntax-morphology interface.* Philadelphia, PA: University of Pennsylvania dissertation.

Moravcsik, Edith A. 1974. Object-verb agreement. *Working Papers on Language Universals* 15. 25–140.

Müller, Gereon. 2007. Notes on paradigm economy. *Morphology* 17. 1–38.

Nevins, Andrew. 2007. The representation of third person and its consequences for person-case effects. *Natural Language & Linguistic Theory* 25. 273–313.

Nevins, Andrew. 2011. Multiple Agree with clitics: Person complementarity vs omnivorous number. *Natural Language & Linguistic Theory* 29. 939–971.

Partee, Barbara H. 1997. Genitives: A case study. Appendix to Janssen, Theo. 1997. Compositionality. In Johan van Benthem & Alice ter Meulen (eds.), *Handbook of logic and language*, 464–470. Amsterdam: Elsevier.

Pesetsky, David & Esther Torrego. 2001. T-to-C movement: Causes and consequences. In Michael Kenstowicz (ed.), *Ken Hale: A life in language*, 355–426. Cambridge, MA: MIT Press.

Pesetsky, David & Esther Torrego. 2007. The syntax of valuation and the interpretability of features. In Simin Karimi, Vida Samiian & Wendy K. Wilkins (eds.), *Ken Hale: A life in language*, 262–294. Amsterdam: John Benjamins.

Polinsky, Maria & Eric Potsdam. 2001. Long distance agreement and topic in Tsez. *Natural Language & Linguistic Theory* 19. 583–646.

Polinsky, Maria & Omer Preminger. 2014. Case and grammatical relations. In Andrew Carnie, Yosuke Sato & Daniel Siddiqi (eds.), *The Routledge handbook of syntax*, 150–166. London: Routledge.

Preminger, Omer. 2013. That's not how you Agree: A reply to Zeijlstra. *The Linguistic Review* 30. 491–500.

Preminger, Omer. 2014. *Agreement and its failures.* Cambridge, MA: MIT Press.

Pylkkänen, Liina. 2008. *Introducing arguments.* Cambridge, MA: MIT Press.

Reeve, Matthew. 2018. An agreement-based analysis of extraction from nominals. *Natural Language & Linguistic Theory*. (Online First.)

Reinhart, Tanya. 2006. *Interface strategies: Optimal and costly computations.* Cambridge, MA: MIT Press.

Reuland, Eric. 2001. Primitives of binding. *Linguistic Inquiry* 32. 439–492.

Rezac, Milan. 2008. The syntax of eccentric agreement: The person case constraint and absolutive displacement in Basque. *Natural Language & Linguistic Theory* 26. 61–106.

Rodrigues, Cilene. 2010. Possessor raising through thematic positions. In Norbert Hornstein & Maria Polinsky (eds.), *Movement theory of control*, 119–146. Amsterdam: John Benjamins.

Rooryck, Johan & Guido Vanden Wyngaerd. 2011. *Dissolving binding theory*. Oxford: Oxford University Press.

Ross, John R. 1967. *Constraints on variables in syntax*. Cambridge, MA: MIT dissertation.

Safir, Ken. 2014. One true anaphor. *Linguistic Inquiry* 45. 91–124.

Schütze, Carson T. 1997. *INFL in child and adult language: Agreement, case and licensing*. Cambridge, MA: MIT dissertation.

Schütze, Carson T. 2003. Syncretism and double agreement with Icelandic nominative objects. In Lars-Olof Delsing, Cecilia Falk, Gunlög Josefsson & Halldór Ármann Sigurðsson (eds.), *Grammatik i focus/grammar in focus: Festschrift for Christer Platzack*, 295–303. Lund: Department of Scandinavian Languages.

Sigurðsson, Halldór Ármann. 1993. Agreement as head visible feature government. *Studia Linguistica* 47. 32–56.

Svenonius, Peter. 2004. On the edge. In David Adger, Cécile De Cat & George Tsoulas (eds.), *Peripheries: Syntactic edges and their effects*, 259–287. Dordrecht: Kluwer.

Svenonius, Peter. 2006. The emergence of axial parts. *Nordlyd* 33. 1–22.

Titov, Elena. 2012. *Information structure of argument order alternations*. London: UCL dissertation.

Torrego, Esther. 1998. *The dependencies of objects*. Cambridge, MA: MIT Press.

Tsakali, Vina, Elena Anagnostopoulou & Artemis Alexiadou. 2017. *A new pattern of CP transparency: Implications for the analysis of Backward Control*. (Paper presented at GLOW 40, Leiden.)

van Craenenbroeck, Jeroen. 2012. Invisible Last Resort: A note on clefts as the underlying source for sluicing. *Lingua* 120. 1714–1726.

Yip, Moira, Joan Maling & Ray Jackendoff. 1987. Case in tiers. *Language* 63. 217–250.

Zaenen, Annie, Joan Maling & Höskuldur Thráinsson. 1985. Case and grammatical functions: The Icelandic passive. *Natural Language & Linguistic Theory* 3. 441–483.

Zeijlstra, Hedde. 2012. There's only one way to agree. *The Linguistic Review* 29. 491–539.

Did you like this book?

This book was brought to you for free

language
science
press

Agreement, case and locality in the nominal and verbal domains

This book explores the Agree operation and its morphological realisations (agreement and case), specifically focusing on the connection between Agree and other syntactic dependencies such as movement, binding and control. The chapters in this volume examine a diverse set of cross-linguistic phenomena involving agreement and case from a variety of theoretical perspectives, with a view to elucidating the nature of the abstract operations that underlie them. The phenomena discussed include backward control, passivisation, progressive aspectual constructions, extraction from nominals, possessives, relative clauses and the phasal status of PPs.