

## Chapter 1

# Anaphors and pronouns at the syntax-semantics interface

This chapter concerns the Binding Theory, more precisely, the derivational timing of Condition A and Condition B of Chomsky (1981; 1986). Chomsky's original version of the Binding Theory suggests that anaphors and pronouns are in a complementary distribution. This chapter argues that both anaphoric and coreferential pronominal binding requires licensing at the semantics module. However, the structural underpinning of anaphoric binding is established in narrow syntax, namely, within a phase (cf. Kratzer 2009; Charnavel & Sportiche 2016). Thus, what appears to be a competition between Condition A and Condition B of Chomsky (1986) and following work is a side-effect of derivational timing.

Specifically, I argue that even though a binding relation must be licensed at the semantic module (CI/LF), its structural underpinning is established in narrow syntax. In contrast, a co-referential relation is established only after a phase is labeled by CI (Chomsky 2013; 2015). Following Kučerová (2018), I argue that when CI licenses a phase label, narrow-syntax features projected to the label in narrow syntax get rebundled to become legible to the semantic module (in a parallel to a formation of new feature bundles for the phonology/morphology module, as in the Distributed morphology framework of Halle & Marantz 1993). Whenever the mapping between narrow-syntax bundles and CI-licensed bundles is isomorphic, the narrow syntax representation have a derivational preference. If, however, the interface formation diverts (in a way to be made precise), both anaphors and co-referential pronouns become a plausible morphological output.

## 1 Introduction

This chapter concerns the Binding Theory, more precisely, the derivational timing of Condition A and Condition B of Chomsky (1981; 1986). Chomsky's original version of the Binding Theory suggests that anaphors and pronouns are in a complementary distribution. Seeming cases of non-complementary distribution result from distinct underlying structures the anaphor and pronoun appear at.



For instance, the fact that pronouns and anaphors are not in a complementary distribution in nominal complements, as in (1), can be attributed to an optional presence of a specified subject (PRO).

- (1) a. the children heard [stories about each other]  
b. the children heard [PRO stories about them]

(adapted from Chomsky 1986: 170, (228))

In predicate-based theories, complementarity is associated only with co-arguments. Non-arguments are not subject to the complementarity requirement. Thus, data parallel to Chomsky's (1), as in (2), are attributed to the domain of the application of the Condition A itself, instead to a structural ambiguity of the non-argument itself.

- (2) a. Lucie's joke about herself/\*her

(Reinhart & Reuland 1993: 661, (6c))

- b. Max likes jokes about himself/him

(Reinhart & Reuland 1993: 661, (8b))

However, as pointed out, for example, by Runner & Kaiser (1995), even co-arguments can display a non-complementary behavior, as in (3). Such cases arise if the anaphoric pronoun is not a proper anaphor but a logophor.

- (3) Ebenezer<sub>i</sub> saw Jacob's picture of him<sub>i</sub>/himself<sub>i</sub>.

(adapted from Runner & Kaiser 1995: 597, (7)-(8))

Charnavel & Sportiche (2016) provide additional arguments that when anaphors and pronouns are not in a complementary distribution, the anaphoric element is a logophor (an exempt anaphor in their terminology).

This chapter focuses on the lack of complementarity in canonical Condition A environments, i.e., environments where the anaphor is not exempt, yet it can alternate with a co-referential pronoun. Following Charnavel & Sportiche (2016), I argue that Chomsky (1986)'s formulation of Condition A is ultimately correct,<sup>1</sup> and that binding domains for Condition A coincide with phases. However, as we will see, even in phase-bound Condition A environments anaphors and co-referential pronouns do not have to be in a complementary distribution, contrary to what Charnavel & Sportiche (2016) predict. I argue that their formulation of

---

<sup>1</sup> For other formulations of Condition A see, for example, Pollard & Sag (1992); Reinhart & Reuland (1993); Safir (2004; 2014); Reuland (2001; 2011).

Condition A is in the right direction but it requires a more precise formulation of when in the derivation binding operations take place.

Specifically, I argue that even though a binding relation must be licensed at the semantic module (CI/LF), its structural underpinning is established in narrow syntax. In contrast, a co-referential relation is established only after a phase is labeled by CI (Chomsky 2013; 2015). Following Kučerová (2018), I argue that when CI licenses a phase label, narrow-syntax features projected to the label in narrow syntax get rebundled to become legible to the semantic module (in a parallel to a formation of new feature bundles for the phonology/morphology module, as in the Distributed morphology framework of Halle & Marantz 1993). Whenever the mapping between narrow-syntax bundles and CI-licensed bundles is isomorphic, the narrow syntax representation have a derivational preference. If, however, the interface formation diverts (in a way to be made precise), both anaphors and co-referential pronouns become a plausible morphological output. Interestingly, the formulation put forward here shares some insights with Chomsky (1986)'s idea that an optional formation of covert pronominal elements in the edge of a binding domain is what underlies the lack of complementarity. However, unlike in Chomsky's original formulation, the pronominal-like element is not part of narrow syntax. It only emerges at the syntax-semantics interface.

Since this chapter concentrates on the question of derivational timing of binding relationships, it puts aside a number of important questions. Most of existing literature assumes that anaphors are in some sense deficient where the deficiency ranges from being  $\phi$ -feature deficient (Reuland 2001; 2011; Rooryck & vanden Wyngaerd 2011) to being referentially deficient (Adger & Ramchand 2005), or both (Kratzer 2009). The proposed formalization sides with the combined position, best represented by Kratzer (2009) (although with some important modifications), although it remains agnostic as to what features might be deficient and the extent of cross-linguistic variation in the type of deficiency. In addition, some authors argue that the binding relationship is established at LF (the reason being that it holds of some predication relation, e.g., Sells 1987; Kuno 1987; Giorgi 2010). Others argue that the binding relation is established in syntax (because of the nature of feature deficiency, e.g., Sundaesan 2012; Hazel 2013). For me, only Condition A has a narrow-syntax counterpart (combined with LF/CI licensing). Pronominal binding gets established later in the derivation.<sup>2</sup>

The consequence of the proposal is that by definition the relationship between Condition A and Condition B cannot be competition-based as the competition

---

<sup>2</sup> I do not address Condition C but following the logic of the proposal, it must take place later than in narrow syntax as well.

would have to refer to different points of derivation (see also Chomsky 1995 for an argument that derivations cannot be directly compared). Yet, as we will see, some form of economy of derivations must be in place. Finally, the proposal provides an argument that in order to develop an empirically adequate account of binding relations one must pay a closer attention to the division of labor between narrow syntax and the syntax-semantics interface, and its consequences for timing and locality.

## 2 Puzzle: Binding in associative constructions

Czech possessive pronouns, unlike their English counterparts, morphologically distinguish between anaphors and coreferential pronominal forms. The anaphoric forms, unlike other pronominal forms in Czech, do not morphologically realize person, gender and number. Instead, they are based on a  $\phi$ -feature-invariant (reflexive) root (*sv-*). In contrast, the coreferential pronominal forms overtly agree in person, number and gender with their antecedent.<sup>3</sup> Some examples are given in (4).<sup>4</sup>

(4) Czech pronominal series

- |    |                    |                |                 |                     |
|----|--------------------|----------------|-----------------|---------------------|
| a. | <i>m-ůj</i> ,      | <i>tv-ůj</i> , | <i>j-eho...</i> |                     |
|    | 1SG-M.SG.NOM       | 2SG-M.SG.NOM   | 3SG.M-M.SG.NOM  |                     |
|    | ‘my, your, his...’ |                |                 | (pronominal series) |
| b. | <i>sv-ůj</i>       |                |                 |                     |
|    | REFL-M.SG.NOM      |                |                 |                     |
|    | ‘my, your, his...’ |                |                 | (anaphoric series)  |

As can be seen in (5), only anaphors are allowed in a canonical Condition A environment. Here, a possessive of a direct object is bound by the subject.<sup>5</sup>

---

<sup>3</sup> The anaphoric and coreferential forms were previously analyzed as subject-oriented anaphors and pronouns (e.g., Toman 1991 and following work).

<sup>4</sup> Both pronominal and anaphoric possessives also agree in gender and number with the nominal they modify. I do not gloss this dimension in this chapter.

<sup>5</sup> Some Czech dialects lack the morphological distinction between anaphors and co-referential pronouns and possessives. These dialects also differ in the distribution of null subjects and  $\phi$ -agreement in inflectional morphology, indicating a rather different pronominal system. This chapter only uses data from speakers who find the pronominal form in examples, such as that in (5), ungrammatical, i.e., speakers whose morphological realization of pronouns systematically distinguishes between anaphors and co-referential pronouns.

- (5) Petr viděl **svého/ \*jeho** bratra.  
 Petr saw REFL/ his brother  
 ‘Petr<sub>i</sub> saw his<sub>i</sub> brother.’

Since the core empirical data in this chapter comes from binding within complex nominals, we must establish what kind of binding we see in base-line nominals. As we see in (6), if a possessive pronoun in the complement of a nominal is co-indexed with the nominal, then it must be realized as an anaphor. The example in (7) demonstrates that if a possessive in an adjunct of a nominal is co-indexed with the nominal, then it must be anaphoric as well. We can conclude that both nominal complement and NP-adjuncts count as Condition-A environments in Czech.

- (6) Horlivý student **svého/ \*jeho** oboru se hned pozná.  
 keen student of-self of-his subject REFL immediately recognized  
 ‘One immediately recognizes a keen student<sub>i</sub> of his<sub>i</sub> subject.’
- (7) Žena ve **svém/ \*v jejím** kabátě se cítí lépe než žena v  
 woman in self in her coat REFL feels better than woman  
 cizím kabátě.  
 in stranger coat  
 ‘A woman<sub>i</sub> in her<sub>i</sub> coat feels better than a woman in someone else’s coat.’

There is a striking exception, however. If the antecedent is first plural or second plural pronoun, then the bound possessive can be both anaphoric and pronominal. Thus, (8) minimally contrasts with (5), (6) contrasts with (9), and (7) contrasts with (10).

- (8) Viděli jsme **svého/ našeho** bratra.  
 saw.PL AUX.1PL self/ our brother  
 ‘We<sub>i</sub> saw our<sub>i</sub> brother.’
- (9) Vy studenti **svého/ vašeho** oboru se hned poznáte.  
 you.PL students of-self of-your subject REFL immediately recognized  
 ‘One immediately recognizes you the students<sub>i</sub> of your<sub>i</sub> subject.’
- (10) My se ve **svém/ našem** kabátě cítíme lépe než ženy v cizím  
 we REFL in self in our coat feel better than women in  
 kabátě.  
 stranger coat  
 ‘We<sub>i</sub> in our<sub>i</sub> coat feel better than women in someone else’s coat.’

One could hypothesize that the binding exception is an idiosyncratic property of first and second plural pronouns. However, there is one more structural environment in which anaphors and pronouns can alternate, namely, comitative constructions. Comitative constructions are complex nominal constructions that get interpreted as conjunctions, however, syntactically, they are a nominal modified by a prepositional phrase headed by ‘with.’ As we can see in (11), in this construction, if a possessive pronoun in the PP is coindexed with the focal nominal, the possessive can be anaphoric or pronominal.

- (11) Marie se svým/ jejím mužem ...  
 Marie with self/ her husband  
 ‘Marie<sub>i</sub> and her<sub>i</sub> husband ...’

Note that in a corresponding coordination, the possessive must be pronominal, as in (12).

- (12) Marie a \*svůj/ její muž ...  
 Marie and self/ her husband  
 ‘Marie<sub>i</sub> and her<sub>i</sub> husband ...’

The pattern raises the question what it is about comitative constructions and 1st and 2nd plural pronouns that they allow coreferential pronouns to appear in otherwise strictly Condition A environments.

I argue that the relevant property is that these structures semantically form an associative number (e.g., Benveniste 1966; Zwicky 1977; Noyer 1992; Corbett & Mithun 1996; Corbett 2000; Cysouw 2003; Moravcsik 2003; Nakanishi & Tomioka 2004; Siewierska 2004; Kratzer 2009). That is to say, instead of forming a semantic plurality as a sum of individuals (e.g., Link 1983), they form a group centered around an individual pivot. Thus, the interpretation of the 1st person plural is not a plurality of speakers. Instead, it is a group formation around the speaker, i.e., the speaker and their associate(s). Similarly, 2nd person plural pronoun does not denote a plurality of hearers (although that is harder to see without a careful consideration of a variety of data), but instead it denotes the hearer and their associate(s). Comitative constructions, unlike coordinations, do not form semantic plurality but instead they denote a group with the head noun as its pivot and the lexical content of the PP as the associate.

The interpretive parallel suggests that associative plurality itself plays a crucial role in the optionality of binding in comitative constructions. The question is what aspect of associative plurality interacts with pronominal binding.

1st and 2nd plural pronouns provide one more suggestive cue. There is a subtle meaning difference in the variation in binding by these pronouns, as indicated in the English translations in (13).

- (13) a. Viděli jsme **našeho** bratra.  
saw.PL AUX.1PL our brother  
'We<sub>i</sub> saw our<sub>i</sub> brother.' [i.e., all of us are siblings]
- b. Viděli jsme **svého** bratra.  
saw.PL AUX.1PL REFL brother  
'Each of us saw his/her brother.' [i.e., we are not siblings]  
'We<sub>i</sub> saw our<sub>i</sub> brother.' [i.e., all of us are siblings]

Pre-theoretically, the coreferential form, (13a), refers to the associative plurality, i.e., the group of the speaker/hearer and the associate(s) as *a unit*. The natural interpretation of (13a) is that the brother of the speaker and the brother of the associate(s) denoted by the pronoun are the same person (i.e., the individuals in the associative group are siblings). In contrast, the anaphoric form, (13b), intuitively refers to the *individual members* of the plurality. Under this interpretation, the brother of the speaker and the brother of the associate(s) may but do not have to be the same person. Thus, the coreferential pronoun treats its antecedent as a unit (a group) but the anaphoric pronoun reflects the individuals the group is formed by. In other words, it is as if the bound pronoun was based on the special semantic number (associativity), while the anaphor was based on the interpretation we expect under the regular plural formation.

I take the dissociation in the meaning seriously and I argue that associative number in and of itself is not sufficient to give rise to the non-complementary behavior of anaphors and pronouns. For the non-complementary behavior to arise there must be a mismatch between the intended meaning and the corresponding morpho-syntactic representation. The critical factor in the associative structures is that the number formation does not have a morpho-syntactic equivalent in the representation of the nominal. Morpho-syntactically, 1st and 2nd pronouns in Czech are regular plurals. The number of a comitative construction depends on the morpho-syntax of its head noun, not on combined features of the noun and the adjunct PP. I argue that a mismatch between the intended interpretation and the morpho-syntactic realization extends to other structures in which anaphors and pronouns are not in a complimentary distribution and the anaphor cannot be characterized as a logophor, such as so-called Lakoff's sentences and binding in the domain of indexical shifters (monsters) and imposters.

In (14) we see an example of a so-called Lakoff's sentence.<sup>6</sup> Here, the non-reflexive (coreferential) form obtains a split-reference reading, i.e., it is based on the intended semantic denotation, but the anaphoric form requires the non-split reference, i.e., it is based on the morpho-syntactic realization of the relevant person feature.

- (14) If I were you, I wouldn't trust myself/ me as an informant.  
(David Pesetsky, p.c.)

Similarly, split-antecedent pronouns referring to imposters (Collins & Postal 2012 and literature cited there) show a similar duality. As shown by Podobryaev (2017), if a split-antecedent pronoun refers to a grammatically 3rd person imposter, the form of the pronoun can either respect the 3rd person grammatical form of the overt antecedent or it can go with the intended speaker index, as in (15) (Podobryaev 2017: 340, (24)).

- (15) a. Yours truly<sub>*i*</sub> told Mary<sub>*j*</sub> that his<sub>*i*</sub> mother doesn't approve of their<sub>*i+j*</sub> marriage.  
b. Yours truly<sub>*i*</sub> told Mary<sub>*j*</sub> that his<sub>*i*</sub> mother doesn't approve of our<sub>*i+j*</sub> marriage.

These structures have been characterized as having a distinct grammatical and semantic representation of the person feature.<sup>7</sup> Thus, monsters/imposters and associative structures seem to share a dissociation of the value of the morpho-syntactic representation and its corresponding semantic counterpart.

These similarities strongly suggest that some form of a complex structure that can simultaneously refer to the morpho-syntactic representation and its semantic counterpart lies in the very core of the comitative binding puzzle. It is thus tempting to extend the analyses proposed for monsters and imposters, most prominently the analysis in Collins & Postal (2012) and its formal semantic modification in Podobryaev (2017), to associative constructions in Czech, and seek whether the proposed structure can account for the lack of complementarity in binding.

---

<sup>6</sup> I replaced the original McClawskey's example, first cited in Lakoff (1968: (13)) "I dreamed that I was Brigitte Bardot and that I kissed me." because younger speakers do not know who Bardot is and in turn have difficulties with identifying the two distinct readings.

<sup>7</sup> In the theoretically-neutral representation of Collins & Postal (2012), there is a pronoun-like element within the imposter DP which is bound by a contextually-determined operator. In the more formal account of Podobryaev (2017), the duality is implemented as a complex-indexical structure in the sense of Minor (2011) and Sudo (2012).



In fact, there are proposals that analyze associative pronouns analogically to the structure proposed in Collins & Postal (2012), i.e., as DPs containing a null pronoun. den Dikken et al. (2001) argue that in Hungarian the 1st person pronoun behaves as if it had a comitative structure (based on evidence from agreement and inclusive reference anaphora). According to their proposal, the structure of such a pronoun contains a hidden *pro*.

- (16) [<sub>NP</sub> ‘we’/‘us’ [<sub>SC</sub> *pro* 1SG [<sub>PP</sub> COMIT [x (& y (& z ...))]]]]  
(den Dikken et al. 2001: 145, (18))

The idea that there is a hidden anaphoric *pro* in the structure of associative pronouns is generalized and further developed in Rooryck’s (2006) account of binding by associative pronouns. Similarly, Feldman (2001) proposes a semantic implementation for comitative structures which includes a *pro*,<sup>8</sup> and so does Skrabalova (2004) in her syntactic analysis of Czech comitative constructions (in contrast to other coordinate structures discussed in her thesis).

Even though extending the imposter-like analysis to comitative structures seems motivated by the similarities in their binding properties, the *pro* implementation runs into non-trivial complications when more syntactic facts are considered. The structural duality of imposters in English is visible only in binding, i.e., the duality does not interact with narrow-syntax operations. Comitative constructions in Czech are rather different in this respect. We can demonstrate the difference on predicate agreement. Predicate agreement with an imposter is strictly based on the grammatical form of such an imposter. A switch to an agreement based on the intended semantic interpretation is impossible, both in Czech and English, (18)–(17).

- (17) Váš služebník je/\*jsem tu.  
yours truly is/am here  
‘Your truly has arrived.’

- (18) Yours truly is/\*am unhappy.

(Collins & Postal 2012: 3, (5c))

In contrast, predicate agreement with comitative constructions is variable. While some speakers have a preference for the plural agreement, all speakers find both

---

<sup>8</sup> Feldman’s implementation is very close to the semantic analysis of associative DPs in Afrikaans proposed by den Besten (1996). In both proposals the antecedent-like relationship which underlies the idea of having a hidden pronoun in the representation is based on a subset-superset denotation of the focal DP and the associate.

singular and plural agreement acceptable, as in (19).<sup>9</sup> Thus, the predicate agreement can reflect the morpho-syntactic features of the head noun (singular) or it can match the intended interpretation (plural).

- (19) Maminka s dítětem čekala/ čekaly v čekárně.  
 mother with child waited.F.SG/ waited.PL in waiting\_room  
 ‘A mother and a/her child waited in the waiting room.’ CC

The agreement variability is puzzling. In Czech, predicate agreement is exclusively based on  $\phi$ -features of nominative nominals. Thus, Czech does not allow any agreement variability based on the intended meaning, of the sort found, for instance, with *committee*-type nouns in some English dialects or in languages like Russian where numeral constructions such as ‘five famous actors,’ as in (20a), may agree in singular (i.e., grammatical agreement with the numeral head) or in plural (i.e., semantic agreement based on the meaning of the numeral phrase). In Czech, the respective agreement must be singular, (21). A switch to the semantic value arises only a non-local environment, for example, across a sentential boundary, as in the continuation of (21) in (22).

- (20) a. V ètom fil'me igrali [pjat' izvestnyx aktërov].  
 in this film played.PL five.NOM famous actors.GEN  
 b. V ètom fil'me igralo [pjat' izvestnyx aktërov].  
 in this film played.SG five.NOM famous actors.GEN  
 ‘Five famous actors played in this film.’ (Pereltsvaig 2006: 438–439, (3))
- (21) a. V tomto filmu hrálo [pět známých herců].  
 in this film played.SG five.NOM famous actors.GEN  
 b. \* V tomto filmu hráli [pět známých herců].  
 in this film played.PL five.NOM famous actors.GEN  
 ‘Five famous actors played in this film.’
- (22) ...a ?dostalo/ dostali pak odměnu.  
 and got.SG/ got.PL then bonus  
 ‘...and they received a bonus afterward.’

The only exception is agreement with DP conjunctions because Czech allows first-conjunct agreement. However, even with conjunctions, the agreement optionality is restricted to the base-generated position of the coordination. In a

<sup>9</sup> If the focal noun is plural, the only possible agreement is plural. Because the plural case do not reveal any interesting agreement interactions, I leave them aside.

derived subject position, the agreement must be plural, as seen in (23). In comitative constructions the agreement remains variable even if the construction is in a derived subject position.

- (23) a. Petr a Marie \*čekal/ čekali v čekárně.  
 Petr and Marie waited.M.SG/ waited.PL in waiting\_room  
 b. V čekárně čekal/ čekali Petr a Marie.  
 in waiting\_room waited.M.SG/ waited.PL Petr and Marie  
 ‘Peter and Mary waited in the waiting room.’

Surprisingly, the agreement optionality disappears if there is a possessive pronoun embedded in the associative PP. As shown in (24), when the possessive within the associative PP is in the coreferential form, i.e., inflected for  $\phi$ -features, predicate agreement is plural and the comitative subject binds as a plural. In contrast, if the possessive is anaphoric, i.e., with no  $\phi$ -feature morphology, predicate agreement is singular and the comitative subject binds as a singular, as shown in (25). Positing a *pro* as the source of the dual behavior in binding fails to extend to agreement properties of comitative constructions and the correlation between agreement and binding.

- (24) % Marie s jejím mužem navštívili/ ??navštívila kamarádku.  
 Marie with her husband visited.PL/ visited.SG friend  
 ‘Marie<sub>i</sub> and her<sub>i</sub> husband visited a friend.’ CO-REFERENTIAL POSSESSIVE  
 (25) % Marie se svým mužem ??navštívili/ navštívila kamarádku.  
 Marie with self’s husband visited.PL/ visited.SG friend  
 ‘Marie<sub>i</sub> visited a friend with her<sub>i</sub> husband.’ ANAPHORIC POSSESSIVE

The reported correlation between predicate agreement and the type of possessive pronoun holds for ten out of 20 speakers the data were collected from (indicated by the symbol %).<sup>10</sup> The other speakers accept all combinations of pronouns and agreement. If speakers have any contrast, it is in the reported direction.<sup>11</sup>

<sup>10</sup> Two speakers volunteered the judgements without being given minimal pairs; the other judgements are based on grammaticality judgement task. The data were collected over Skype, in person and during a doctoral seminar at [left out for anonymity].

<sup>11</sup> The correlation between binding and agreement has not been previously reported for Czech but a similar split in speaker’s judgements might be attested in Russian. According to Feldman (2001), plural agreement with a comitative structure requires coreferential forms. In contrast, McNally (1993) reports both anaphoric and coreferential forms as acceptable. Neither of the

Thus, as with Lakoff's sentences and imposters, there is a correlation between the lack of complimentary distribution of anaphors and pronouns, and a dissociation of morpho-syntax and interpretation. When the predicate agreement takes its morpho-syntactically expected form, i.e., singular agreement based on the  $\phi$ -features of the focal noun in nominative, then the possessive pronoun appears in its expected form, i.e., an anaphor. In contrast, when the agreement is based on the intended interpretation (plurality), the possessive pronoun appears in its unexpected form, i.e., it is pronominal.

The proposal to be developed in section 3 builds on the insights of the work on the structure of associative pronouns and indexical shifters and imposters but rejects the idea that the conflicting grammatical and semantic representation is part of the same level of representation. Instead, I argue that the two representations arise at two distinct points in the derivation: one in narrow syntax, the other at the syntax-semantics interface. The distinction in derivational timing is thus closely tied to phases and their spell-out, and in turn underlies the unexpected grouping of semantic and narrow-syntax operations.

### 3 Proposal

We have seen in the previous section that for many speakers predicate agreement correlates with binding: if a possessive pronoun within a comitative structure is coreferential, the corresponding predicate agreement is plural; if the pronoun is anaphoric, the predicate agreement is singular. The relevant data is repeated below.

- (26) % Marie s jejím mužem navštívili/ ??navštívila kamarádku.  
 Marie with her husband visited.PL/ visited.SG friend  
 'Marie<sub>i</sub> and her<sub>i</sub> husband visited a friend.' CO-REFERENTIAL POSSESSIVE
- (27) % Marie se svým mužem ??navštívili/ navštívila kamarádku.  
 Marie with self's husband visited.PL/ visited.SG friend  
 'Marie<sub>i</sub> visited a friend with her<sub>i</sub> husband.' ANAPHORIC POSSESSIVE

I suggest that the common denominator of the correlation is whether or not binding and agreement are based on semantic indices.

---

papers comments on the size of their speaker sample and their data collection. In Polish, at least according to the data reported in Dyla (1988), there is no morphological difference tied to agreement but it is possible that a larger data collection would reveal a similar split.

To see the rationale, let us start with agreement. Since no morpho-syntactic element comes to the derivation with plural number feature, the plural feature must be formed during the derivation. Instead of plurality being derived syntactically,<sup>12</sup> I argue that the formation of plurality involves a set of semantic indices, namely, an index representing the focal DP and an index of the associate.<sup>13</sup> In contrast, singular agreement is based on the morpho-syntactic representation of the focal noun.

As for pronouns, I follow Heim (1998) and Roelofsen (2008; 2011) in that coreferential binding requires semantic indices as part of the antecedent representation. That is, only an antecedent that contains a semantic index as part of its representation may participate in coreferential binding. As for anaphoric binding, I follow Charnavel & Sportiche (2016) who argue that anaphoric binding is established within a phase, which I understand to mean that it must be based on a narrow-syntax representation. The indexical information becomes critical for LF licensing of the binding relation but does not underlie the actual formation of the anaphoric relation. The question that arises is how this indexical information is represented in the structure.

I argue that narrow-syntax features are computed by the syntax-semantics interface in a manner parallel to the computations of overt syntax features at the syntax-morphology interface. Specifically, I argue that the syntax-semantics interface forms new feature bundles during spell-out. These interface bundles become part of the label of the spelled-out phase; their primary purpose is to make narrow-syntax features legible for the external interpretive module.

The proposal is firmly rooted in the Y-model. The guiding idea is that only features present in narrow syntax can contribute to the formation of these interface bundles. Thus only syntax builds structures. The role of interfaces is to interpret the structures and make them legible for the purposes of externalization. Importantly, at no point of the interface bundle formation, the grammar can use compositional-semantics input. I call this model Distributed Semantics.

The first core insight comes from Kratzer (2009) who argues that  $\phi$ -feature valuation of a pronoun is always established via a phase head. That is to say, even in the presence of a structurally accessible antecedent, the structural relationship

---

<sup>12</sup> Even though one probe can in principle have more than goal (e.g., Multiple Agree of Hiraiwa 2005), the values of the probes must be the same or undefined. Agree as matching and valuation cannot resolve conflicting values of features (e.g., Chomsky 2000; Pesetsky & Torrego 2007).

<sup>13</sup> The basic idea is rooted in accounts that analyze the plurality of coordinated DPs as being based on the sum of semantic indices (Munn 1993; Bošković 2009; Bhatt & Walkow 2013). We will see, however, that although both conjunctions and comitatives manipulate indices, they do so in two rather distinct manners.

of antecedence is always modulated via a phase head. Following Kučerová (to appear), I argue for a model of grammar architecture in which a person feature is mapped onto a semantic index as part of phase transfer where the association with semantic indices provides the relevant semantic representation for the rise of associative plural in the phase label, and in turn for coreferential pronominal binding.

Under this model, the optionality of agreement and binding reflects two stages in the derivation: the indexical representation is not part of the narrow-syntax representation of a DP. Instead, it arises only when such a DP is sent to the syntax-semantics interface (phase transfer). In other words, an index representation is available to syntactic computation in a broad sense only after a phase is transferred to the syntax-semantics interface.<sup>14</sup> Further, I follow Kučerová (to appear) in that phase transfer does not have to take place immediately after the phase is completed. Since only the complement of the phase head is spelled-out, the transfer of the maximal projection of the phase head and its corresponding label may be postponed until the spell-out of the next phase.

In turn, the correlation we see in (24)–(25) results from two different derivational routes. If the comitative DP is immediately labeled for the syntax-semantics interface, the person representation within the label of the comitative DP is mapped onto a semantic index. A complex indexical structure is formed and becomes part of the label. When a predicate probes for the DP, its number value reflects the indexical representation of the label. Similarly, the features of the bound possessive pronoun will reflect the complex indexical structure (enriched by gender and number features, associated with the indexical representation) and will surface as a coreferential pronoun. In contrast, if the comitative DP is not immediately labeled for the syntax-semantics interface, the complex-index is not part of the DP label yet. In turn, agreement and binding can only be based on narrow-syntax features.

Optionality thus arises because there is a temporal window in the derivation when the phase can be labeled but does not have to be labeled for the syntax-semantics interface: the phase has been completed but only the complement of the phase head is being spelled-out. The phase edge remains accessible to narrow-syntax computations. Thus, all operations that take place before the complement of C is spelled-out, namely, agreement and binding, come in two flavors: the

---

<sup>14</sup> There is a long tradition of associating D with a referential index, be it in terms of D changing a predicate-denoting NP into an individual-denoting structure, or being the source of a referential index itself (e.g., Williams 1981; Higginbotham 1985; Grimshaw 1990; Wiltschko 1998; Winter 2000; Borer 2005; Longobardi 2008; Landau 2010).

narrow syntax and the interface representation.

The next subsections give a technical formalization of the account and step-by-step derivations of binding in comitative constructions.

### 3.1 Deriving comitatives: singular agreement + anaphoric binding

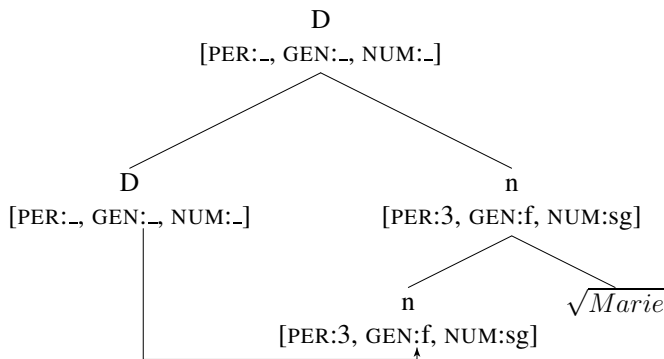
Let us start with the derivation in which a comitative construction triggers singular agreement and the possessive pronoun within the associative PP is anaphoric.

- (28) % Marie se svým mužem ??navštívili/ navštívila kamarádku.  
 Marie with self's husband visited.PL/ visited.SG friend  
 'Marie<sub>i</sub> visited a friend with her<sub>i</sub> husband.' ANAPHORIC POSSESSIVE

I argue that in this case the predicate probes the comitative construction and the binding relation within the comitative construction is created *before* the phase is transferred to the syntax-semantics interface. I.e., the DP label is only based on features independently present in narrow syntax.

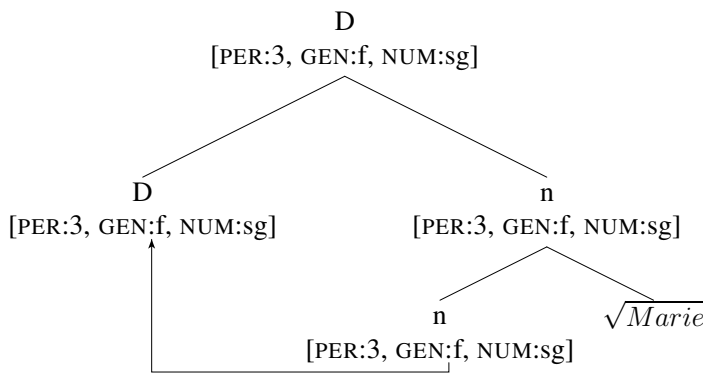
For concreteness, I assume that a DP consists of a root and a nominalizing functional head (n) that comes to the derivation with valued gender, person and number. D itself is merged as a bundle of unvalued  $\phi$ -features which gets valued by agree with n, as in (29).<sup>15</sup>

- (29) Derivation of the focal noun (to be revised)  
 a. Base generation & agree:



<sup>15</sup> For the current purposes we can dispense with other functional projections, such as Num(ber) (e.g., Ritter 1993; 1995; Borer 2005). I also ignore arguments, such as that of Ritter (1995), that person is introduced on D.

b. Valuation:



Let us turn to the derivation of the bound possessive pronoun. Kratzer (2009) argues that bound pronouns do not value their features directly from their antecedent. Instead, a bound pronoun starts its life as a variable that inherits its features from their local phase head. I argue that in the comitative construction, the relevant phase head is D.<sup>16</sup> In turn, D must have a variable-like representation. The question is how to implement a variable-like representation in narrow-syntax terms as there should be no semantic variable prior to spell-out.

A cue comes from the morphological realization of anaphoric and coreferential pronouns in Czech. As only the latter realize valued  $\phi$ -features, it is reasonable to assume that there is another feature that mediates the binding relation in narrow syntax.

For concreteness, I propose that there is an numerical identifier merged as an external argument of D. I thus follow a long tradition of associating D with a ‘referential’ index (e.g., Williams 1981; Higginbotham 1985; Grimshaw 1990; Wiltschko 1998; Winter 2000; Borer 2005; Longobardi 2008; Landau 2010), specifically the idea that the identifier is not part of D itself but instead is merged in the extended DP domain (Williams 1981; Higginbotham 1985; Grimshaw 1990; Winter 2000; Borer 2005).<sup>17</sup>

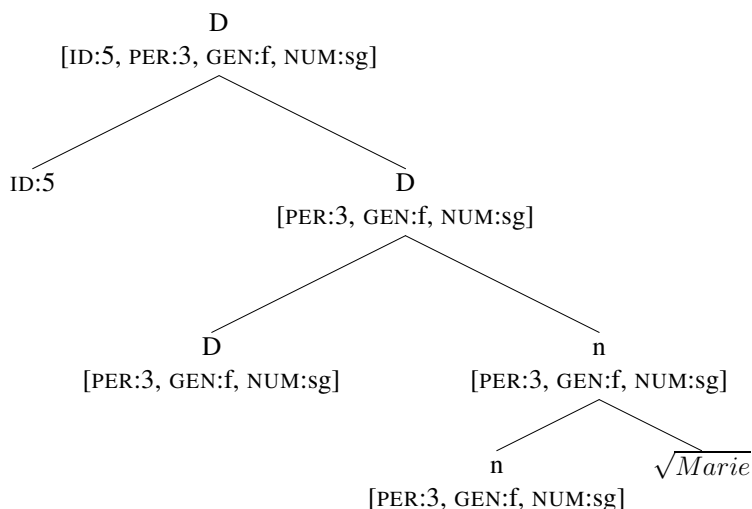
<sup>16</sup> For Kratzer the relevant phase head is *v* as she investigates binding of internal arguments by external arguments, The domain of binding within a comitative structure must be smaller because comitative structures preserve the binding duality even if they are merged as an internal argument. If the bound pronoun associated with the *v* head, its features would be determined by the external argument, not the focal nominal.

<sup>17</sup> Note also that even though the empirical focus of this paper is on referential DPs, the formalization is more general and may be applied to non-referential DPs as well. The prediction is



Although the numerical identifier will eventually become part of a complex semantics index, i.e., an interpretable object, its narrow-syntax version does not carry any interpretation beyond being a unique identifier.<sup>18</sup> Technically, it is a privative feature in the representation of DP which projects into the DP label, as in (30).

(30) Derivation of the focal noun (revised)



Since the associative DP does not yield an intersective interpretation, I assume that it is base-generated as a DP adjunct. I generate the possessive pronoun as an unvalued identifier.<sup>19</sup> The pronoun gets its value from merge with the D label that contains the identifier introduced by the focal noun, as in (31). Since the identifier itself is not associated with any  $\phi$ -feature, the possessive pronoun gets spelled-out as morphologically anaphoric, i.e., devoid of  $\phi$ -features. As for predicate agreement, the only number feature in the label is singular. If the predicate probes for the comitative structure in (31), its number feature will get valued as singular.

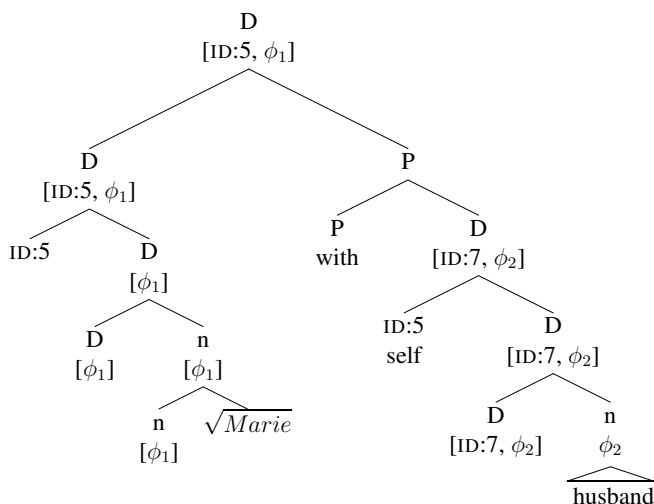
---

that DPs do not have to be referential, which seems to be correct; see, for example, Rothstein (2012).

<sup>18</sup> The numerical identifier is essentially a ‘tracking device,’ loosely based on Heim (1982)’s file-card semantics.

<sup>19</sup> Essentially, Kratzer’s minimal pronoun.

(31) Anaphoric binding within a comitative construction:



With this baseline in place we now turn to the more complex version of the derivation.

### 3.2 Deriving comitatives: plural agreement + coreferential binding

We have identified the presence of a semantic index as the common denominator of plural agreement and coreferential binding, (24). The idea is that when the comitative DP is transferred to the syntax-semantics interface a new set of features is created, and the semantic index is part of the adjusted label.

- (32) % Marie s jejím mužem navštívili/ ??navštívila kamarádku.  
 Marie with her husband visited.PL/ visited.SG friend  
 ‘Marie<sub>i</sub> and her<sub>i</sub> husband visited a friend.’ CO-REFERENTIAL POSSESSIVE

The question is how this new feature bundle is formed. The basic intuition follows the treatment of narrow-syntax features in the Distributed Morphology framework (e.g., Halle & Marantz 1993; Embick & Noyer 2007; Embick 2015). The role of the interfaces is to make a narrow-syntax representation into an input readable to the external modules. On the syntax-morphology side, the interface may merge features, impoverish features, reset unvalued features to a default etc. but ultimately the morphologized feature bundles are directly based

on the features already present in narrow syntax. It is within this process when language-specific feature properties fully manifest themselves.

I argue that features at the syntax-semantics interface undergo operations parallel to the features at the syntax-morphology interface. In turn, feature bundles readable by LF result from direct mapping of narrow-syntax features. Furthermore, a feature or feature bundle present in syntax can give rise to semantic interpretation, be it of the feature itself (as iconic features in Schlenker 2014), or via its syntactic context.<sup>20</sup>

In order to develop such a mapping algorithm, we take as a starting point insights from formal semantic literature on semantic indices in the domain of pronouns. Pronouns have been extensively studied with respect to which  $\phi$ -features are morphologically realized and which are semantically interpreted, and what role do semantic indices play in the process.

According to Minor (2011) and Sudo (2012), following Heim (2008) and others, a semantic index is a complex structure which includes reference to  $\phi$ -features. In its simplest version, a semantic index is an ordered pair of a numeral and a person feature. For instance,  $\langle 5, \textcircled{3} \rangle$  is a complex indexical structure that maps numerical index 5 to 3rd person feature. The interpretation of the complex index in the given situation is determined by an assignment function (Heim & Kratzer 1998). For example, such an assignment function may map  $\langle 5, \textcircled{3} \rangle$  onto an individual named Peter. Such a semantic index can be further associated with other  $\phi$ -features, namely, number and gender, but only if such a feature is semantically interpreted. In this line of reasoning, gender and number – unlike person – come with presuppositional semantics (e.g., Cooper 1979; 1983; Heim 2008; Sudo 2012) and are added to the complex semantic index only if their presupposition is satisfied.

The question then is how such a complex representation arises if person features are present in narrow syntax, while semantic indices are *prima facie* LF objects. To formalize this connection, I propose that since the DP label already contains a numerical identifier and a person feature, the syntax-semantics interface creates a new feature bundle from these two features, namely, their ordered pair.<sup>21</sup> As a result, the label of a DP with no associative PP, such as the focal noun

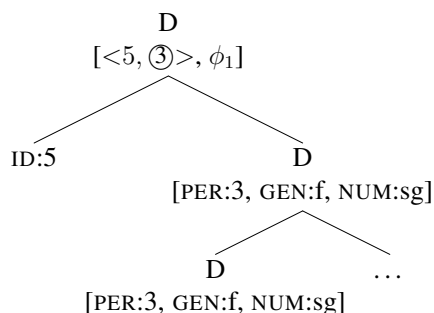
---

<sup>20</sup> The latter option has been extensively explored in recent work on theta roles that argues that theta roles are a result of interpretive rules applied onto the output of a syntactic computation, instead of being assigned in narrow syntax (Schäfer 2008; Wood 2015; Myler 2016; Wood & Marantz 2017).

<sup>21</sup> That person feature provides a connection between the narrow-syntax representation and associating a DP with a semantic index has been proposed in the syntax literature as well, based on data outside of the pronoun domain (e.g., Longobardi 2008; Landau 2010; Kučerová

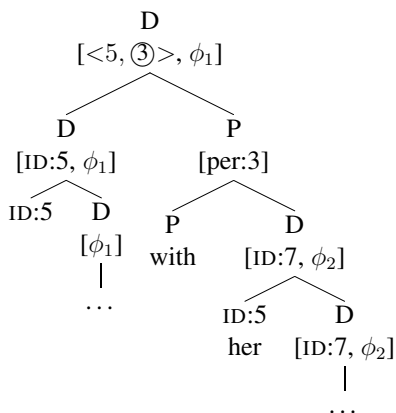
in (30), contains a new object – the semantic index – formed from the numeral identifier (5) and the person feature from the  $\phi$ -bundle (③), as in (33).

(33) Derivation of the focal noun: semantic index added



We can now extend the reasoning to the complete comitative structure. Let us assume that the associative DP is a phase as well, and that P inherits person feature from its complement.<sup>22</sup> As in the derivation of the singular version of (31), the maximal projection is based on features of the head. The labeled version of the comitative structure in (31) is given in (34).

(34) Labeled comitative construction (to be revised):




---

to appear).

<sup>22</sup> That P inherits a person feature from its nominal complement has independently been argued for in work on Dative intervention. See, for instance, Béjar & Rezac 2003; Rezac 2008; Richards 2008.

The structure in (34), however, cannot be right as it fails to account for the plural agreement of the predicate. A relevant insight comes from two recent papers by Pancheva and Zubizarreta (Zubizarreta & Pancheva 2017; Pancheva & Zubizarreta 2017). Pancheva & Zubizarreta investigate a body of syntactic phenomena that according to their analysis points to fundamental cross-linguistic differences in the domain of person features. They argue that in some languages a person feature has a privileged position in the representation of phase heads. According to them, such a privileged person feature (interpretable person feature in their terminology) semantically anchors an event with respect to its speech participants.<sup>23</sup> In order to anchor all relevant DPs, such an anchoring person feature checks all syntactic person features within its local domain (defined as the edge of the phase). The derivation converges only if multiple values of person features in the local domain may be reconciled on the phase head. If they are not, the derivation yields, for instance, a Person-Case Constraint violation or an inverse agreement.

As Czech is a strong-PCC language (Pancheva & Zubizarreta 2017), I propose that in addition to having an anchoring person feature on *v*, Czech has an anchoring person feature on *D* as well. Consequently, this anchoring feature checks (i) the person feature of the focal noun and (ii) person feature of the associative PP.<sup>24</sup> This checking process accounts for plural agreement.

Informally, once the label contains a reference to two distinct person features associated with their numeral identifier, the newly formed feature bundle gives rise to a plural-like representation. Technically, in order to create a semantic index we need a unique person and a unique numerical identifier. There are, however, two identifiers and two person features in the minimally searchable domain. One could consider forming a set of two semantic indices within the label, i.e., each numeral identifier would first form a semantic index with its corresponding person and then these two semantic indices would create a set, namely,  $\langle 5, \textcircled{3} \rangle$ ,  $\langle 7, \textcircled{3} \rangle$ . While such a representation would be justified for a formation of semantic plurality in the label of a coordinated DP, it cannot be right for comitative constructions; we would lose the clear headedness property of the focal noun. I argue the label only contains one instantiation of a semantic index.

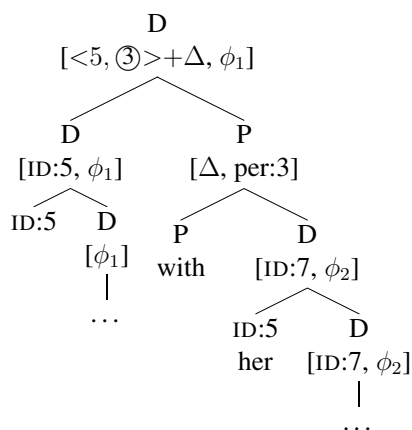
---

<sup>23</sup> In other languages, such a privileged feature is a tense feature that provides temporal anchoring of an event. Cross-linguistically there might be other anchoring options as well, as suggested in Ritter & Wiltschko (2014).

<sup>24</sup> Note that in the current proposal the formation of the interface label may take place only after the complement of the head has been spelled-out. It then follows that the local searchable domain coincides with what has independently been identified as the phase edge.

Since the semantic index is formed as an ordered pair with the numeral identifier as its first member, the formation of the unified semantic index begins with the numeral identifier. Since the numeral identifier of the focal noun is closer to the label than the numeral identifier embedded within the PP, the numeral identifier of the focal noun is selected by the search algorithm of the label. Thus preserving the headedness properties of the focal DP. The person feature corresponding to this identifier is added to the bundle. In the next step, the search algorithm checks for the presence of any other person feature in the minimally searchable domain. Once the search algorithm identifies the person in the associative PP, the label has to indicate that there is more than one person feature associated with the privileged person feature in the label. Such an addition is not trivial because a feature may be represented only by its value (here, ③, i.e., [−participant]). I follow the insight of Vassilieva & Larson (2005) and argue that the problem with the addition of the second person feature is ameliorated by the lexical semantics of the associative proposition ‘with.’ In their account, the preposition contributes the so called associate ( $\Delta$ , in their notation). I.e., instead of another person feature value being added directly to the first person feature, the primary person feature is modified by  $\Delta$ , indicating that there is an additional person feature in the structure. I formalize  $\Delta$  as a joiner, which can be translated into a meet or an intersection (Szabolcsi 2015). In turn, we obtain ③+ $\Delta$  for the person part of the semantic index. The corresponding structure is given in (35).

(35) Labeled comitative construction (final):



Before we turn to predicate agreement, let us briefly consider consequences

of this implementation. First, the advantage of using Szabolcsi's implementation instead of the original semantics in Vassilieva & Larson (2005) is that we do not need a separate lexical semantics for non-comitative 'with'. These two meanings of the same preposition fall under the underspecified denotation of a joiner, i.e., meet for the comitative structure and join for the accompaniment structure.<sup>25</sup> Second, the joiner representation is formed only because the associative PP is in the local domain of the phase label. If the PP was adjoined lower in the structure, its person feature would have not been visible to the anchoring feature in the label. I suggest the reason the PP is merged at the very edge is because of the pre-existent relationship between the focal noun and the associative PP, a requirement on semantic wellformedness of comitative constructions. Without the presupposition, the PP could be new information and used to restrict the denotation of the focal noun which would correspond to a lower attachment. Finally, since the joiner does not include the actual person feature of the associative PP but only points to it, we effectively obtain an anaphoric-like interpretation and indirectly capture the prevalent intuition that there is a *pro*-like element in the associative structure (e.g., den Dikken et al. 2001; Feldman 2001; Skrabalova 2003; 2004; Rooryck 2006).

We can now turn to the predicate agreement facts. The label now contains the semantic index with the associative person feature ( $\textcircled{3}+\Delta$ ). I argue that for the purposes of number feature valuation and its morphological realization, this representation corresponds to plural.<sup>26</sup> An agree operation that targets the label of the comitative DP after transfer will then realize its number value as plural.

Finally, we can account for the binding facts. When the realization of the possessive pronoun is established after the phase has been labeled by the syntax-semantics interface, the pronoun inherits the numeral identifier of the corresponding phase head, and through some form of feature transmission (Heim 2008; Kratzer 2009) it also inherits presuppositional  $\phi$ -features associated with the numeral identifier within the index. Comitative constructions are well formed only if there is a pre-existent relationship between the focal noun and the associate.<sup>27</sup> With respect to this relation, only the  $\phi$ -features of the focal noun count

---

<sup>25</sup> We thus indirectly derived the desideratum of Ionin & Matushansky (2002) who argue for the PP in the comitative and accompaniment structure being of the same type.

<sup>26</sup> In Czech morphological marking of plurality never reflects the type of plurality. The plural valuation in the agree chain may result from a default realization or the number system may be represented as  $[\pm\text{singular}]$ . I am not aware of any data that would distinguish between these two possibilities.

<sup>27</sup> We did not elaborate on this point but the pre-existent relationship is reflected also in the associative PP being a DP adjunct, instead of being an NP adjunct, i.e. a restrictor on the

as as presupposed, and in turn, only the  $\phi$ -features of the focal noun are transmitted onto the possessive pronoun within the associative PP.

So far, the proposed implementation crucially relies on the speakers who correlate agreement and binding. There are, however, speakers whose grammar allows any combination of agreement and binding. Within-speaker variation is notoriously difficult to account for in a deterministic model, however, we have a cue in the derivations as to where such a variation might come from. An attentive reader might have noticed that even after the interface processes the features within the label and the semantic index is added, the original  $\phi$ -feature bundle is still part of the label. I suggest that it is this inherent duality of the features within the label which makes it possible for speakers to access the syntactic  $\phi$ -feature bundle even when the semantic index is already present. Thus when agreement and binding are established before the comitative label is processed by the syntax-semantics interface, singular agreement and anaphoric binding are the only option. When agreement and binding are established after the transfer of the comitative construction, all combinations are possible. This being said, the fact that about 50% of the speakers correlate binding and agreement suggests some preference for a uniformity of representations across derivations within a phase. To fully explore the nature of such uniformity principle goes beyond the scope of this chapter.

## 4 Conclusions

This chapter argues that both anaphoric and coreferential pronominal binding require licensing at the semantics module. However, the structural underpinning of anaphoric binding is established in narrow syntax, namely, within a phase (cf. Kratzer 2009; Charnavel & Sportiche 2016). Thus, what appears to be a competition between Condition A and Condition B of Chomsky (1986) and following work is a side-effect of derivational timing and some form of faithfulness condition on mapping of morphological structures onto narrow-syntax representations.

The proposal is rooted in the idea that the syntax-morphology interface plays a critical role in the mapping of narrow-syntax features onto the semantics module. Specifically, I have argued for a model of grammar architecture where the syntax-semantics interface rebundles narrow-syntax features to make them legible to the semantics module, in a manner parallel to the syntax-morphology

---

denotation of the focal noun.



rebundling of the Distributed Morphology framework. Consequently, a phase head's label carries both narrow-syntax features (projected from narrow syntax) and rebundled feature bundles formed as part of CI licensing. A complex semantic index, a central feature to binding relations, is such a new rebundled feature. While the morphological realization of anaphors is based on feature transmission of narrow-syntax features, the morphological realization of coreferential pronouns is based on feature transmission of CI-interface feature bundles.

In most derivations, the rebundled CI features are based on features already projected into the phase label projected from narrow syntax. If that's the case then the morphological realization of the bound pronoun is based on the features present in the set of narrow syntax features. If however, the rebundled features result from a larger set of features – accessed by a minimal search of the phase head for the purposes of CI labeling, then the morphology component may realize the CI-rebundled features instead. The question that arises is when the two sets of features, i.e., the narrow-syntax projected set of features in the label and the set established by a minimal search, can be distinct. In this chapter we have seen that if there is a person feature present at the phase-level adjunct, then such a feature can be considered for the CI labeling. Consequently, there is no structural competition between Condition A and Condition B. Instead, the appearance of binding over coreference (Reinhart 1983) results from feature transmission taking place in the derivation as soon as possible (greediness).

Presumably, the lack of complementary distribution of anaphors and pronouns in vP adjuncts, previously identified as logophors, belongs to the same class of a labeling configuration. The question that arises is what the difference between logophors and the class of anaphors discussed in this paper is. Under the view argued for here, so called logophors contain a syntactic person feature that requires a phase-head licensing, for instance, in order to resolve a potential perspectival conflicts. For a concrete implementation of such a proposal, see, for example, Pancheva & Zubizarreta (2017). The animacy angle investigated in Charnavel & Sportiche (2016) is a direct consequence of the more general mechanism for a perspectival conflict resolution where only potential event participants are considered.

## Abbreviations

1 = first person

2 = second person

3 = third person

AUX = auxiliary  
CI = conceptual-intentional module  
COMIT = comitative  
D = determiner head  
F = feminine  
GEN = gender  
ID = identifier  
LF = logical form  
M = masculine  
NOM = nominative  
NP = noun phrase  
P = prepositional head  
PF = phonological form  
PL = plural  
PER = person  
REFL = reflexive  
SC = small clause  
SG = singular

## Acknowledgements

## References

- Adger, David & Gillian Ramchand. 2005. Merge and move: wh-dependencies revisited. *Linguistic inquiry* 36(2). 161–193.
- Béjar, Susana & Milan Rezac. 2003. Person licensing and the derivation of PCC effects. *Amsterdam Studies in the Theory and History of Linguistic Science Series* 4. 49–62.
- Benveniste, Émile. 1966. *Problèmes de linguistique générale*. Vol. 1. Gallimard.
- den Besten, Hans. 1996. Associative DPs. *Linguistics in the Netherlands* 13(1). 13–24.
- Bhatt, Rajesh & Martin Walkow. 2013. Locating agreement in grammar: an argument from agreement in conjunctions. *Natural Language & Linguistic Theory* 31(4). 951–1013.
- Borer, Hagit. 2005. *Structuring sense: An exo-skeletal trilogy*. New York: Oxford University Press.
- Bošković, Željko. 2009. Unifying first and last conjunct agreement. *Natural Language & Linguistic Theory* 27(3). 455–496.

- Charnavel, Isabelle & Dominique Sportiche. 2016. Anaphor binding: what French inanimate anaphors show. *Linguistic Inquiry* 47(1). 35–87.
- Chomsky, Noam. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.
- Chomsky, Noam. 1986. *Knowledge of language: its nature, origin, and use*. Westport, CT: Prager Publishers.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2000. Minimalist inquiries: the framework. In R. Martin, D. Michaels & J. Uriagereka (eds.), *Step by Step*, 89–155. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2013. Problems of projection. *Lingua* 130. 33–49.
- Chomsky, Noam. 2015. Problems of projection: Extensions. In Elisa Di Domenico, Cornelia Hamann & Simona Matteini (eds.), *Structures, strategies and beyond. Studies in honour of Adriana Belletti*, 3–16. Amsterdam: John Benjamins.
- Collins, Chris & Paul Martin Postal. 2012. *Imposters: a study of pronominal agreement*. Cambridge, Mass.: MIT Press.
- Cooper, Robin. 1979. The interpretation of pronouns. In Frank Heny & H. Schnelle (eds.), *Syntax and semantics 10: selections from the third groningen round table*, 61–92. New York: Academic Press.
- Cooper, Robin. 1983. *Quantification and syntactic theory*. Dordrecht: Reidel.
- Corbett, Greville. 2000. *Number*. Cambridge: Cambridge University Press.
- Corbett, Greville G & Marianne Mithun. 1996. Associative forms in a typology of number systems: evidence from Yup'ik. *Journal of Linguistics* 32(1). 1–17.
- Cysouw, Michael. 2003. *The paradigmatic structure of person marking*. Oxford: Oxford University Press.
- den Dikken, Marcel, Anikó Lipták & Zsófia Zvolenszky. 2001. On inclusive reference anaphora: new perspectives from Hungarian. In K. Megerdooian & L. A. Bar-el (eds.), *WCCFL 20 Proceedings*, 137–149. Somerville, Mass.: Cascadilla Press.
- Dyła, Stefan. 1988. Quasi-comitative coordination in polish. *Linguistics* 26. 383–414.
- Embick, David. 2015. *The morpheme: A theoretical introduction*. Walter de Gruyter GmbH & Co KG.
- Embick, David & Rolf Noyer. 2007. Distributed morphology and the syntax-morphology interface. In Gillian Ramchand & Kurt Rice (eds.), *The Oxford handbook of linguistic interfaces*, 289–324. Oxford: Oxford University Press.
- Feldman, Anna. 2001. Comitative and plural pronoun constructions. In *Proceedings of the 17th Annual Meeting of the Israel Association of Theoretical Linguistics*.

- Giorgi, Alessandra. 2010. *Towards a syntax of indexicality*. Oxford: Oxford University Press.
- Grimshaw, Jane. 1990. *Argument structure*. Cambridge, Massachusetts: MIT Press.
- Halle, Morris & Alec Marantz. 1993. Distributive morphology and the pieces of inflection. In *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger*, 111–176. Cambridge, MA: MIT Press.
- Hazel, Pearson. 2013. *The sense of self: Topics in the semantics of de se expressions*. Cambridge, Mass.: Harvard University dissertation.
- Heim, Irene. 1982. *The semantics of definite and indefinite noun phrases*. University of Massachusetts, Amherst dissertation.
- Heim, Irene. 1998. Anaphora and semantic interpretation: a reinterpretation of Reinhart's approach. In Uli Sauerland & Orin Percus (eds.), *The interpretive tract*. Vol. 25 (MIT Working Papers in Linguistics), 205–246. Cambridge, Mass.: Department of Linguistics & Philosophy, Massachusetts Institute of Technology.
- Heim, Irene. 2008. Features on bound pronouns. In Daniel Harbour, David Adger & Susana Béjar (eds.), *Phi-theory: Phi features across interfaces and modules*, 35–56. Oxford: Oxford University Press.
- Heim, Irene & Angelika Kratzer. 1998. *Semantics in generative grammar*. Oxford: Blackwell.
- Higginbotham, James. 1985. On semantics. *Linguistic inquiry* 16(4). 547–593.
- Hiraiwa, Ken. 2005. *Dimensions of symmetry in syntax: Agreement and clausal architecture*. MIT dissertation.
- Ionin, Tania & Ora Matushansky. 2002. DPs with a twist: a unified analysis of Russian comitatives. In Wayles Browne et al. (ed.), *Proceedings of Formal Approaches to Slavic Linguistics 11: The Amherst meeting*, 255–274. Ann Arbor: Michigan Slavic Publications.
- Kratzer, Angelika. 2009. Making a pronoun: fake indexicals as windows into the properties of pronouns. *Linguistic Inquiry* 40(2). 187–237.
- Kučerová, Ivona. to appear.  $\phi$ -features at the syntax-semantics interface: Evidence from nominal inflection. *Linguistic Inquiry*.
- Kučerová, Ivona. 2018.  $\phi$ -features at the syntax-semantics interface: Evidence from nominal inflection. *Linguistic Inquiry* 49(4).
- Kuno, Susumo. 1987. *Functional syntax – anaphora, discourse and empathy*. Chicago: Chicago University Press.

- Lakoff, George. 1968. Counterparts, or the problem of reference in transformational grammar. A talk delivered at Linguistic Society of America Meeting, July 27, 1968 (originally under title “Semantics, logic, and opacity”).
- Landau, Idan. 2010. *The locative syntax of experiencers*. Cambridge, Mass.: MIT Press.
- Link, Godehard. 1983. The logical analysis of plurals and mass terms: A lattice-theoretical approach. In Rainer Bäurle, Christoph Schwarze & Arnim von Stechow (eds.), *Meaning, use and the interpretation of language*, 303–323. Berlin: Walter de Gruyter.
- Longobardi, Giuseppe. 2008. Reference to individuals, person, and the variety of mapping parameters. In Henrik Høeg Müller & Alex Klinge (eds.), *Essays on nominal determination: from morphology to discourse management*, 189–211. Amsterdam–Philadelphia: John Benjamins Publishing Company.
- McNally, Louise. 1993. Comitative coordination: a case study in group formation. *Natural Language & Linguistic Theory* 11(2). 347–379.
- Minor, Sergey. 2011. Complex indices and a blocking account of the sequence of tenses. Ms., CASTL, Tromsø.
- Moravcsik, Edith A. 2003. A semantic analysis of associative plurals. *Studies in Language* 27(3). 469–503.
- Munn, Alan Boag. 1993. *Topics in the syntax and semantics of coordinate structures*. College Park, MD: University of Maryland dissertation.
- Myler, Neil. 2016. *Building and interpreting possession sentences*. Cambridge, Mass.: MIT Press.
- Nakanishi, Kimiko & Satoshi Tomioka. 2004. Japanese plurals are exceptional. *Journal of East Asian Linguistics* 13(2). 113–140.
- Noyer, Rolf R. 1992. *Features, positions and affixes in autonomous morphological structure*. Cambridge, MA: Massachusetts Institute of Technology dissertation.
- Pancheva, Roumyana & Maria Luisa Zubizarreta. 2017. The person case constraint. *Natural Language & Linguistic Theory*. <https://doi.org/10.1007/s11049-017-9395-7>. DOI:10.1007/s11049-017-9395-7
- Pereltsvaig, Asya. 2006. Small nominals. *Natural Language & Linguistic Theory* 24(2). 433.
- Pesetsky, David & Esther Torrego. 2007. The syntax of valuation and the interpretability of features. In Simin Karimi, Vida Samiian & Wendy K. Wilkins (eds.), *Phrasal and clausal architecture. Syntactic derivation and interpretation. In honor of Joseph E. Emonds*, 262–294. Amsterdam: John Benjamins.
- Podobryaev, Alexander. 2017. Three routes to person indexicality. *Natural Language Semantics* 25(4). 329–354.

- Pollard, Carl & Ivan A Sag. 1992. Anaphors in English and the scope of binding theory. *Linguistic inquiry* 23(2). 261–303.
- Reinhart, Tanya. 1983. *Anaphora and semantic interpretation*. London: Croom Helm.
- Reinhart, Tanya & Eric Reuland. 1993. Reflexivity. *Linguistic Inquiry* 24. 657–720.
- Reuland, Eric. 2001. Primitives of binding. *Linguistic Inquiry* 32. 439–492.
- Reuland, Eric. 2011. *Anaphora and language design*. Cambridge, Mass.: MIT Press.
- Rezac, Milan. 2008. The syntax of eccentric agreement: The Person Case Constraint and absolutive displacement in Basque. *Natural Language & Linguistic Theory* 26(1). 61–106.
- Richards, Marc. 2008. Quirky expletives. In Roberta D’Alessandro, Susann Fischer & Gunnar Hrafn Hrafnbjargarson (eds.), *Agreement restrictions*, 181–213. Berlin: Mouton de Gruyter.
- Ritter, Elizabeth. 1993. Where’s gender? *Linguistic Inquiry* 24(4). 795–803.
- Ritter, Elizabeth. 1995. On the syntactic category of pronouns and agreement. *Natural Language and Linguistic Theory* 13(3). 405–443.
- Ritter, Elizabeth & Martina Wiltschko. 2014. Featuring animacy and humanness. A talk presented at the Dog days workshop at University of Toronto, August 2014.
- Roelofsen, Floris. 2008. *Anaphora resolved*. Amsterdam: Universiteit van Amsterdam dissertation.
- Roelofsen, Floris. 2011. Free variable economy. *Linguistic Inquiry* 42(4). 682–697.
- Rooryck, Johan. 2006. Binding into pronouns. *Lingua* 116(10). 1561–1579.
- Rooryck, Johan & Guido vanden Wyngaerd. 2011. *Dissolving binding theory*. Oxford: Oxford University Press.
- Rothstein, Susan. 2012. Reconsidering the construct state in Modern Hebrew. *Rivista di Linguistica* 24(2). 227–266.
- Runner, Jeffrey & Elsi Kaiser. 1995. Binding in picture noun phrases: Implications for Binding Theory. In Stefan Müller (ed.), *Proceedings of the 12th International Conference on Head-Driven Phrase Structure Grammar, Department of Informatics, University of Lisbon*, 594–613. Stanford, CA: CSLI Publications.
- Safir, Kenneth J. 2004. *The syntax of (in)dependence*. Cambridge, Mass.: MIT Press.
- Safir, Kenneth J. 2014. One true anaphor. *Linguistic Inquiry* 45(1). 91–124.
- Schäfer, Florian. 2008. *The syntax of (anti-) causatives: external arguments in change-of-state contexts*. Amsterdam–Philadelphia: John Benjamins Publishing.
- Schlenker, Philippe. 2014. Iconic features. *Natural Language Semantics* 22(4). 299–356.

- Sells, Peter. 1987. Aspects of logophoricity. *Linguistic Inquiry* 18(3). 445–479.
- Siewierska, Anna. 2004. *Person*. Cambridge: Cambridge University Press.
- Skrabalova, Hana. 2003. Local scrambling as EPP driven movement in Czech. In Eva Hajičová, Anna Kotěšovcová & Jiří Mírovský (eds.), *Proceedings of the XXVII International Congress in Linguistics*. Prague: Matfyzpress.
- Skrabalova, Hana. 2004. *Recherches sur la syntaxe et la sémantique des expressions coordonnées, avec application particulière à la coordination nominale en tchèque*. Paris: Université Paris 3 - Sorbonne nouvelle dissertation.
- Sudo, Yasutada. 2012. *On the semantics of phi features on pronouns*. Cambridge, MA: Massachusetts Institute of Technology dissertation.
- Sundaresan, Sandhya. 2012. *Context and (co)reference in the syntax and its interfaces*. Tromsø and Stuttgart: University of Tromsø & University of Stuttgart dissertation.
- Szabolcsi, Anna. 2015. What do quantifier particles do? *Linguistics and Philosophy* 38(2). 159–204.
- Toman, Jindřich. 1991. Anaphors in binary trees: An analysis of Czech reflexives. In Jan Koster & Eric Reuland (eds.), *Long distance anaphora*, 151–170. Cambridge University Press.
- Vassilieva, Masha & Richard K Larson. 2005. The semantics of the plural pronoun construction. *Natural Language Semantics* 13(2). 101–124.
- Williams, Edwin. 1981. Argument structure and morphology. *The linguistic review* 1(1). 81–114.
- Wiltschko, Martina. 1998. On the syntax and semantics of (relative) pronouns and determiners. *Journal of Comparative Germanic Linguistics* 2. 143–181.
- Winter, Yoad. 2000. Distributivity and dependency. *Natural language semantics* 8(1). 27–69.
- Wood, Jim. 2015. *Icelandic morphosyntax and argument structure*. New York, London: Springer.
- Wood, Jim & Alec Marantz. 2017. The interpretation of external arguments. In Roberta D'Alessandro, Irene Franco & Ángel J. Gallego (eds.), *The verbal domain*, 255–278. Oxford: Oxford University Press.
- Zubizarreta, Maria Luisa & Roumyana Pancheva. 2017. A formal characterization of person-based alignment. The case of Paraguayan Guaraní. *Natural Language & Linguistic Theory* 35(4). 1161–1204.
- Zwicky, Arnold. 1977. Hierarchies of person. In Woodford A. Beach, Samuel E. Fox & Shulamith Philosoph (eds.), *Papers from the Thirteenth regional meeting of the Chicago Linguistic Society*, 714–733. Chicago, IL: University of Chicago, Chicago Linguistic Society.